N.W.R.
M.W.50-

T 23
1915

TRANSIT BOOK

N. [illegible] R. CO.

14.113.0116

O.K.

138 + 20

141 + 04 02
32 38
141 + 36 40

140 + 10 28
139 + 77 90
+ 37 38

No. 60590
MADE BY
The Hicks-Judd Company
Bookbinders, Printers
Loose Leaf Systems
5-65 First St. San Francisco
Give above number when ordering
Duplicate

19 - 6 8
26 -
18 - 7°

124-E 15' Trestle Raised 8
Aug 1914

91 00 2
75° 01
166 03
180 00
166 03
13° 57

Swamp Spur	49	Detail of Material, length Etc - ✓	5-28-15
Craft Spur	50	Alignment ✓	5-29-15
" "	54-56	Levels & Grades. ✓	5-31-15
10-Mile	57-68	Levels - 1st Switchback to End - ✓	5-27-15

- INDEX - T-23

R.W. Valley - Laughlin	1-7	X-Sections For Proposed Grade Changes.	3-19-15
" " "	10	X-Sections Along County Road - M.P. 123	3-19-15
Willits	8-9	Tracks New & Relined	4-19-15
Bellevue.	11	1-A Profile of Ditch	3-23-15
San Quentin	12-13	New Ferry Slip, Agnes Island, Old Wharf, Etc.	4-15-15
Willits	14-a	Changes in Oil Column	4-20-15
"	14	New Height Water Spout	4-20-15
Sherwood East	15-22	Material & Approx Curve Data to 1st Switch Back	4-15-15
10-Mile	23-31	Alignment 1st to 2nd Switchback	4-15
10-Mile	32-34	" 2nd Switchback East	4-15
" "	35-38	Alignment & Grade Notes from Engr Harpe	5-1-15
" "	39-44	" 2nd Switchback East	5-15
Willits	45-47	Levels & Cross Sections E. & W. of Commercial St.	5-21-15
"	47	New Plan of Lunch Car.	5-31-15
"	48	Conditions At Sw. Stand Where Brakeman Was Hurt	5-20-15

99	754.51	x/49 +15.6/49 +12.2/27 −1.9/10 −1.3/6 0/5 ⎸ 0/5 −1.0/8 +0.8/15 −0.2/23 −10.3/48 x/15
+50	753.51	x/50 +9.3/50 +3.1/18 −1.5/12 −1.4/6 0/4 ⎸ +0.2/5 −0.9/7 +0.1/26 x/26
98	752.72	
+50	751.92	
97	751.02	
+50	750.22	
96	749.42	
+50	748.48	
6395	747.52	

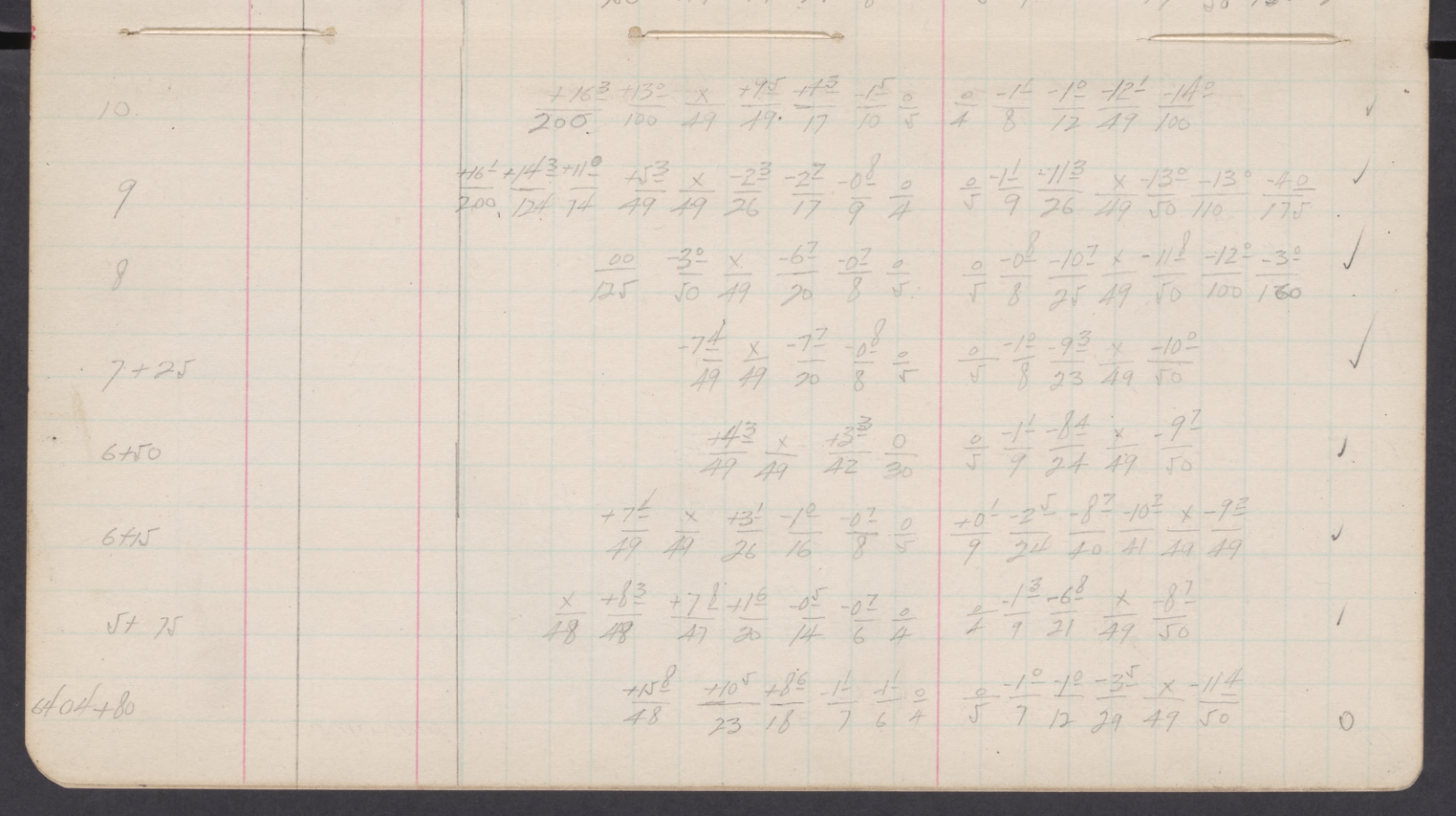
REDWOOD VALLEY – LAUGHLIN

X-Sections For Proposed Grade Change E.S. 6400 to 6480

3-19-15

N.T.R. – Andrews & Fee –

Station-	Present Base Rail	Proposed Sub-Grade			
+70			X/50 +12.0/50 +2.2/14 -1.4/9 0/4	0/5 -1.0/7 -1.0/10 -2.9/17 -3.3/28 X/49 -9.2/50	✓
3+25			X/47 +13.0/47 +12.1/42 +3.6/14 -1.6/8 0/4	0/5 -0.9/7 -1.2/25 X/49 -6.2/50	✓
2			X/49 +15.5/49 +13.2/37 +5.0/14 -1.4/9 -1.4/7 0/4	0/5 -1.0/7 -1.0/10 -7.0/24 -8.5/50 X/50	✓
+50			X/49 +16.4/49 +14.6/34 +7.9/18 -1.4/10 -1.4/7 0/5	0/5 -1.0/7 -1.4/32 -6.7/44 X/49 -7.0/49	/
1					
+50			X/49 +15.9/49 +12.0/22 -1.0/10 -0.6/5 0/4	0/5 -1.0/7 +0.8/15 X/21 -4.2/24 -12.7/28 -6.0/48	/
6400	756.41				
+50.	755.41		X/49 +17.1/49 +14.1/25 -1.3/10 -1.2/6 0/4	0/5 -1.1/7 X/10 -0.6/13 -11.2/17 -10.0/30	/


10
9
8
7+2√
6+√0
6+√
√+7
6+4√+8
0

Station	Present Base Rail	Proposed Sub-Grade
16		
15		
14+10		
13+50		
12+50		
12+15		
11+70		
+70		

23+25

22+16

22+10

21

20+20

18+30

18

6417+00

Station	Present Base of Rail	Proposed Sub-Grade												
29+40			X	+0.6	-1.0	-1.0	-2.5	-0.9	-0.8	0	0	-0.7	-0.8	-2.6	-3.0	X
			49	49	43	38	28	9	6	4	4	6	9	14	49	49
28+60			X	0	-1.4	-1.4	-0.5	-0.6	0	0	-0.7	-0.7	0	-0.6	X	
			49	49	30	16	10	6	4	4	6	8	10	49	49	
27+85			X	0	+0.3	-0.8	-0.8	0	0	-0.7	-0.7	+0.1	-1.1	X		
			49	49	12	10	6	4	4	6	9	13	49	49		
27			X	-0.4	-1.9	-0.5	-0.5	0	0	-0.7	-0.8	-2.3	-3.0	-1.8	X	
			49	49	12	8	6	4	4	6	9	13	20	49	49	
26+50			X	-0.4	00	-0.7	-0.8	0	0	-0.8	-1.1	X				
			49	49	15	11	7	4	4	6	49	49				
25+50			X	+0.3	-0.5	+0.3	-0.5	-0.6	0	0	-0.6	-0.6	-0.7	-0.1	X	
			49	49	28	15	12	6	4	4	6	8	9	49	49	
24+35			-2.1	X	-2.5	-1.1	-0.8	0	0	-0.9	-0.9	-2.0	X	-1.9		
			49	49	14	9	6	4	4	7	9	16	49	49		
23+80			+0.6	X	+0.2	-1.7	-2.1	-0.8	-1.0	0	0	-1.1	-1.1	-0.6	-1.7	X
			49	49	30	27	19	10	6	4	4	7	10	11	49	49

35

$\frac{0}{4}\ \frac{-1^{0}}{6}\ \frac{-0^{9}}{9}\ \frac{+2^{3}}{13}\ \frac{+3^{0}}{32}\ \frac{+1^{2}}{49}\ \frac{X}{49}$ ✓

$\frac{X}{49}\ \frac{+2^{9}}{49}\ \frac{+3^{0}}{13}\ \frac{-0^{9}}{9}\ \frac{-0^{9}}{6}\ \frac{0}{4}$

34+15

$\frac{0}{4}\ \frac{-0^{8}}{6}\ \frac{-0^{8}}{8}\ \frac{+1^{6}}{12}\ \frac{+1^{6}}{49}\ \frac{X}{49}$ ✓

$\frac{X}{49}\ \frac{-0^{8}}{49}\ \frac{-0^{3}}{30}\ \frac{+0^{9}}{23}\ \frac{+0^{8}}{12}\ \frac{-0^{9}}{8}\ \frac{-0^{9}}{6}\ \frac{0}{4}$

+65

$\frac{0}{4}\ \frac{-0^{8}}{6}\ \frac{-1}{9}\ \frac{0}{11}\ \frac{+0^{4}}{24}\ \frac{-1^{0}}{49}\ \frac{X}{49}$ ✓

$\frac{X}{49}\ \frac{+0^{9}}{49}\ \frac{-0^{6}}{28}\ \frac{-0^{1}}{15}\ \frac{-0^{8}}{6}\ \frac{0}{4}$

33

$\frac{0}{4}\ \frac{-0^{6}}{6}\ \frac{-0^{6}}{10}\ \frac{+1^{3}}{13}\ \frac{X}{49}\ \frac{+0^{3}}{49}$ ✓

$\frac{+2^{0}}{49}\ \frac{X}{49}\ \frac{+1^{0}}{12}\ \frac{-0^{6}}{10}\ \frac{-0^{6}}{7}\ \frac{0}{5}$

32

$\frac{0}{4}\ \frac{-0^{6}}{6}\ \frac{-0^{6}}{9}\ \frac{+1^{0}}{12}\ \frac{+1^{5}}{22}\ \frac{+1^{0}}{32}\ \frac{X}{49}\ \frac{-1^{7}}{49}$ ✓

$\frac{X}{49}\ \frac{+2^{0}}{49}\ \frac{+2^{6}}{13}\ \frac{-0^{7}}{10}\ \frac{-0^{7}}{6}\ \frac{0}{4}$

30+90

$\frac{0}{4}\ \frac{-0^{6}}{6}\ \frac{X}{49}\ \frac{-12}{49}$ ✓

$\frac{X}{49}\ \frac{-0^{2}}{49}\ \frac{-2^{4}}{22}\ \frac{-1^{8}}{14}\ \frac{-0^{6}}{10}\ \frac{-0^{6}}{6}\ \frac{0}{4}$

30+40

$\frac{0}{4}\ \frac{-0^{6}}{6}\ \frac{-0^{8}}{9}\ \frac{-2^{3}}{13}\ \frac{X}{49}\ \frac{-2^{6}}{49}$ ✓

$\frac{X}{49}\ \frac{+1^{3}}{49}\ \frac{+1^{0}}{26}\ \frac{-2^{3}}{21}\ \frac{-0^{6}}{18}\ \frac{-0^{6}}{6}\ \frac{0}{4}$

64+29+95

$\frac{0}{4}\ \frac{-0^{5}}{6}\ \frac{-0^{5}}{9}\ \frac{-0^{2}}{15}\ \frac{-0^{7}}{45}\ \frac{-1^{6}}{49}\ \frac{X}{49}$ ✓

$\frac{X}{49}\ \frac{-2^{0}}{49}\ \frac{-2^{2}}{39}\ \frac{-2^{3}}{22}\ \frac{-0^{6}}{9}\ \frac{-0^{7}}{6}\ \frac{0}{4}$

Station	Present Base of Rail	Proposed Sub Grade	Left	Right	
42+75			$\frac{X}{49}$ $\frac{-0^{4}}{49}$ $\frac{-0^{7}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-0^{7}}{6}$ $\frac{-1^{7}}{13}$ $\frac{-1^{7}}{49}$ $\frac{X}{49}$	
41+80			$\frac{X}{49}$ $\frac{-2^{7}}{49}$ $\frac{-2^{7}}{37}$ $\frac{-0^{4}}{12}$ $\frac{-1^{0}}{9}$ $\frac{-1^{0}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-0^{8}}{6}$ $\frac{-0^{7}}{12}$ $\frac{-2^{5}}{28}$ $\frac{-3^{4}}{49}$ $\frac{X}{49}$	
40+85			$\frac{X}{49}$ $\frac{-0^{7}}{49}$ $\frac{-1^{4}}{15}$ $\frac{-0^{8}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-1^{1}}{6}$ $\frac{-1^{1}}{10}$ $\frac{00}{13}$ $\frac{+1^{3}}{49}$ $\frac{X}{49}$	✓
40+20			$\frac{X}{49}$ $\frac{+1^{3}}{49}$ $\frac{+1^{3}}{13}$ $\frac{-1^{3}}{10}$ $\frac{-1^{3}}{7}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-1^{0}}{6}$ $\frac{-1^{0}}{10}$ $\frac{00}{12}$ $\frac{+0^{3}}{49}$ $\frac{X}{49}$	✓
38+95			$\frac{X}{49}$ $\frac{+2^{6}}{49}$ $\frac{+2^{2}}{14}$ $\frac{-0^{7}}{10}$ $\frac{-0^{7}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-0^{7}}{6}$ $\frac{-0^{7}}{10}$ $\frac{+2^{0}}{12}$ $\frac{+2^{4}}{19}$ $\frac{+4^{3}}{31}$ $\frac{X}{49}$ $\frac{+1^{3}}{49}$	✓
38+00			$\frac{+1^{4}}{49}$ $\frac{+2^{0}}{12}$ $\frac{-1^{1}}{9}$ $\frac{-1^{6}}{7}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-0^{5}}{6}$ $\frac{-0^{6}}{9}$ $\frac{+2^{4}}{13}$ $\frac{+4^{0}}{30}$ $\frac{X}{49}$ $\frac{+3^{0}}{49}$	✓
37+05			$\frac{-1^{1}}{49}$ $\frac{X}{49}$ $\frac{-3^{0}}{27}$ $\frac{-2^{8}}{14}$ $\frac{-1^{1}}{9}$ $\frac{-1^{0}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-0^{8}}{6}$ $\frac{-0^{8}}{10}$ $\frac{+2^{3}}{49}$ $\frac{X}{49}$	✓
36+25			$\frac{X}{49}$ $\frac{+0^{7}}{49}$ $\frac{-1^{5}}{14}$ $\frac{-1^{0}}{6}$ $\frac{0}{4}$	$\frac{0}{4}$ $\frac{-1^{2}}{6}$ $\frac{-1^{3}}{9}$ $\frac{-3^{0}}{13}$ $\frac{-4^{1}}{28}$ $\frac{-4^{1}}{49}$ $\frac{X}{49}$	

49 + 50

48 + 30

47

46 + 20

45 + 65

45

44

6443 + 20

Station	Present Base of Rail	Proposed Sub Grade			
58+00			00/50 00/12 -0.8/6 0/4	0/4 -0.8/7 -0.2/11 x/49 -0.7/49	
56+90			+1.0/50 +1.7/26 +0.4/11 -0.8/8 -0.7/6 0/4	0/4 -0.6/6 -0.3/10 +0.5/12 00/50 x/50	✓
56			+1.3/49 x/49 +1.1/13 -0.8/9 -0.8/6 0/4	0/4 -0.8/6 -0.6/9 +1.0/13 +2.0/26 +1.0/40 x/49.5 +0.4/50	✓
54+90			+1.6/49 +1.5/41 +4.6/27 +0.8/20 +1.1/14 -0.6/9 -0.7/6 0/4	0/4 -0.8/6 -0.4/9 +1.4/13 +1.0/49 x/49	✓
53+70			+1.7/49 x/49 +5.0/31 +2.1/13 -0.5/9 -0.8/6 0/5	0/4 -0.7/6 -0.7/9 +1.7/13 +2.0/49 x/49	✓
52+50			x/49 +2.0/49 +4.9/35 +2.4/16 -0.7/10 -0.7/6 0/4	0/4 -0.6/6 -0.5/9 +2.5/14 x/49 +1.8/49	✓
51+50			x/49 +2.0/49 +3.9/40 +4.0/38 +2.0/15 -0.5/10 -0.6/6 0/4	0/4 -0.6/6 -0.3/10 +1.6/14 +1.0/49 x/49	✓
51			+1.3/49 +1.0/14 -0.7/10 -0.8/6 0/4	0/4 -0.8/6 -0.7/9 +1.3/13 +1.0/49 x/49	

66

$\frac{X}{\sqrt{0}}$ $\frac{-3^{7}}{\sqrt{0}}$ $\frac{-3^{4}}{44}$ $\frac{-\sqrt{-}}{38}$ $\frac{-3^{8}}{34}$ $\frac{-3^{0}}{31}$ $\frac{-0^{5}}{26}$ $\frac{0}{\sqrt{}}$ $\frac{-0^{-}}{7}$ $\frac{-2^{=}}{14}$ $\frac{-1^{=}}{\sqrt{0}}$ $\frac{X}{\sqrt{0}}$

65

$\frac{-3^{1}}{\sqrt{0}}$ $\frac{-2^{6}}{39}$ $\frac{-0^{4}}{26}$ $\frac{0}{\sqrt{}}$ $\frac{-0^{7}}{7}$ $\frac{0}{\sqrt{0}}$ $\frac{X}{\sqrt{0}}$

64

$\frac{-2^{0}}{\sqrt{0}}$ $\frac{-0^{3}}{23}$ $\frac{0}{4}$ $\frac{0}{\sqrt{}}$ $\frac{-0^{9}}{8}$ $\frac{-0^{7}}{13}$ $\frac{+0^{7}}{16}$ $\frac{+1^{4}}{\sqrt{0}}$ $\frac{X}{\sqrt{0}}$

63

$\frac{-0^{7}}{\sqrt{0}}$ $\frac{0}{36}$ $\frac{0}{22}$ $\frac{0}{4}$ $\frac{0}{4}$ $\frac{-0^{8}}{7}$ $\frac{-0^{7}}{9}$ $\frac{+1^{=}}{17}$ $\frac{+2^{0}}{\sqrt{0}}$

62+0 $\sqrt{}$

$\frac{00}{50}$ $\frac{+1^{=}}{33}$ $\frac{0}{22}$ $\frac{0}{4}$ $\frac{-0^{7}}{7}$ $\frac{+1^{=}}{13}$ $\frac{+1^{4}}{\sqrt{0}}$

61

$\frac{-0^{3}}{\sqrt{\sqrt{}}}$ $\frac{00}{34}$ $\frac{-0^{2}}{12}$ $\frac{0}{4}$ $\frac{-1^{=}}{7}$ $\frac{+0^{1}}{12}$ $\frac{+0^{3}}{\sqrt{0}}$

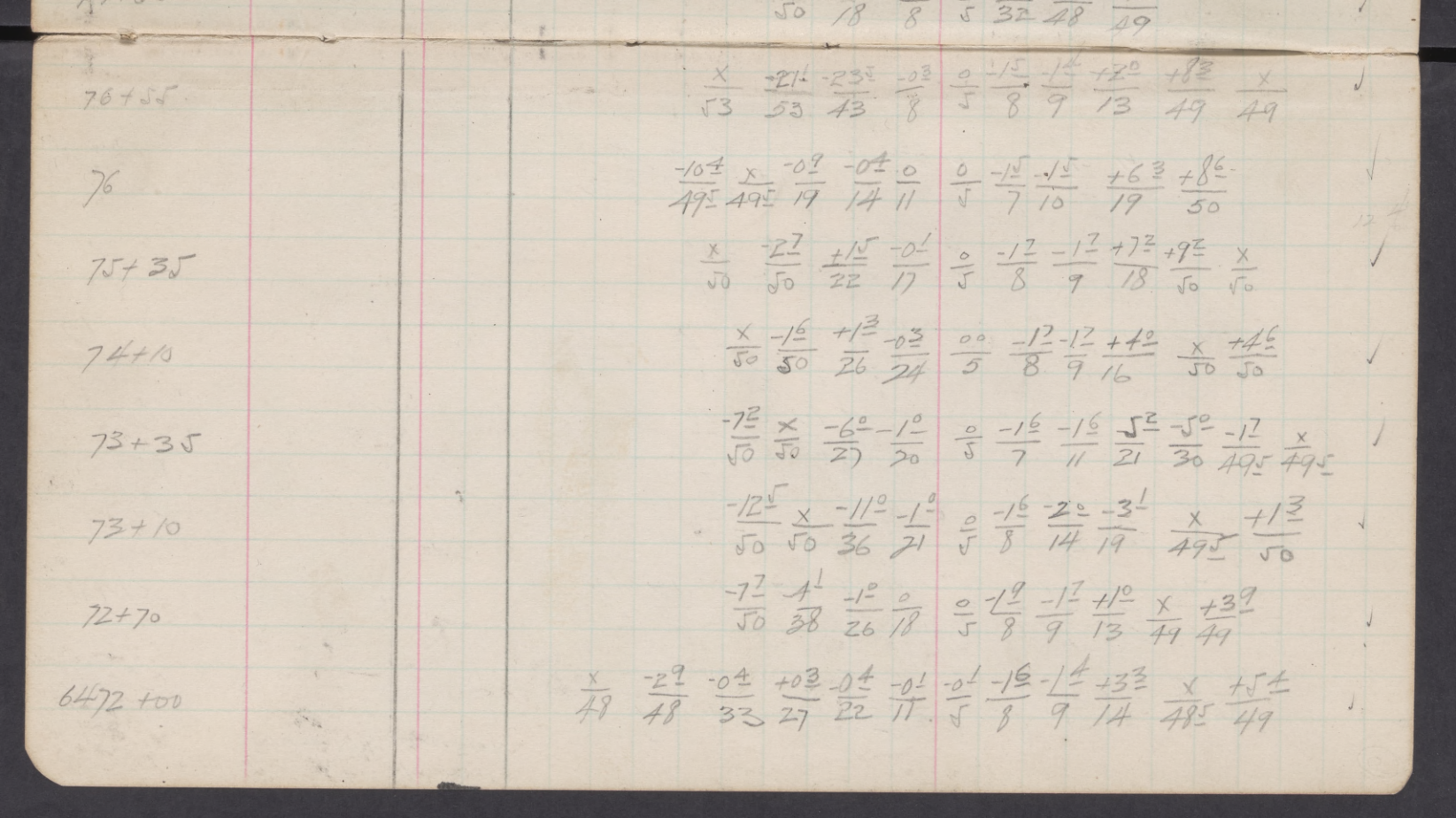
60 +00

$\frac{-1^{0}}{\sqrt{0}}$ $\frac{-0^{8}}{8}$ $\frac{0}{5}$ $\frac{0}{4}$ $\frac{-1^{0}}{7}$ $\frac{-0^{7}}{\sqrt{0}}$ $\frac{X}{\sqrt{0}}$

64 59 +00

$\frac{-0^{7}}{\sqrt{0}}$ $\frac{-1^{0}}{7}$ $\frac{0}{4}$ $\frac{0}{4}$ $\frac{-1^{0}}{7}$ $\frac{-1^{1}}{\sqrt{0}}$ $\frac{X}{\sqrt{0}}$

	Present Base of Rail	Proposed Sub Grade		
71+50			$\frac{-1.7}{48}$ $\frac{-0.4}{35}$ $\frac{+1.6}{28}$ $\frac{-0.5}{24}$ $\frac{-0.3}{11}$	$\frac{0}{5}$ $\frac{-1.8}{7}$ $\frac{-1.7}{10}$ $\frac{+3.8}{15}$ $\times$ $\frac{+5.7}{48}$
71+10			$\frac{+1.4}{49}$ $\times$ $\frac{+6.6}{49}$ $\frac{+5.2}{35}$ $\frac{-0.4}{27}$ $\frac{-0.1}{21}$ $\frac{-0.1}{11}$	$\frac{0}{5}$ $\frac{-1.7}{7}$ $\frac{-1.7}{10}$ $\frac{+3.4}{16}$ $\times$ $\frac{+5.8}{49.5}$
70+50			$\frac{+0.5}{49}$ $\times$ $\frac{+1.3}{49}$ $\frac{+1.3}{40}$ $\frac{+1.0}{31}$ $\frac{00}{24}$ $\frac{-0.3}{22}$ $\frac{-0.3}{11}$	$\frac{0}{5}$ $\frac{-1.6}{7}$ $\frac{-1.7}{15}$ $\frac{+2.8}{20}$ $\times$ $\frac{+5.0}{49.5}$
70+10			$\times$ $\frac{-0.1}{49}$ $\frac{+0.9}{49}$ $\frac{+2.4}{37}$ $\frac{+0.2}{27}$ $\frac{-0.2}{23}$ $\frac{-0.2}{11}$	$\frac{0}{4}$ $\frac{-1.4}{6}$ $\frac{-1.0}{16}$ $\frac{+1.9}{20}$ $\frac{+3.3}{49.5}$
69			$\frac{-1.1}{49}$ $\times$ $\frac{-0.9}{49}$ $\frac{+0.3}{36}$ $\frac{-0.8}{33}$ $\frac{-0.4}{20}$ $\frac{-0.4}{19}$ $\frac{-0.4}{11}$	$\frac{0}{4}$ $\frac{-1.0}{6}$ $\frac{-1.3}{12}$ $\frac{+0.1}{13}$ $\times$ $\frac{+1.3}{49.5}$ $\frac{+1.3}{50}$
68			$\frac{-1.9}{50}$ $\times$ $\frac{-2.1}{50}$ $\frac{-3.6}{38}$ $\frac{-2.3}{33}$ $\frac{-0.6}{29}$ $\frac{-0.6}{21}$	$\frac{0}{4}$ $\frac{-1.0}{6}$ $\frac{-2.0}{11}$ $\frac{-1.0}{16}$ $\frac{-0.4}{50}$ $\times$ $\frac{}{50}$
67			$\frac{-2.7}{50}$ $\times$ $\frac{-2.6}{49.5}$ $\frac{-3.3}{41}$ $\frac{-2.7}{38}$ $\frac{-2.1}{29}$ $\frac{-2.0}{28}$ $\frac{-0.3}{27}$ $\frac{-0.3}{23}$	$\frac{0}{4}$ $\frac{-0.8}{6}$ $\frac{-1.2}{9}$ $\frac{-2.2}{14}$ $\frac{-1.1}{50}$ $\times$ $\frac{}{50}$
66			$\times$ $\frac{-3.2}{}$ $\frac{-3.4}{}$ $\frac{-3.5}{}$ $\frac{-3.8}{}$ $\frac{-3.6}{}$ $\frac{-0.5}{}$	$\frac{0}{}$ $\frac{0}{}$ $\frac{-2.5}{}$ $\frac{-1.5}{}$ $\times$ $\frac{}{}$



Note - 124-E -15' Trestle
Raised 0.8' Aug. 1914.

LAUGHLIN - REDWOOD VALLEY

X-Sections For Proposed Grade Change

E.S. 6400 to E.S. 6480

W.T.R.

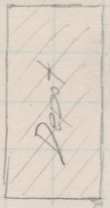
Andrew St Fee -

3-19-15

	Present Base of Rail	Proposed Subgrade											
6480	x/50	-2.0/50	+0.9/14	-1.8/10	-1.8/8	0/5	0/5	-1.1/8	-1.1/9	+1.0/12	x/50	+4.2/50	
79	+3.7/50	x/50	+1.0/17	1.4/9	-1.4/8	0/5	0/5	-1.1/8	-1.1/12	+3.9/17	x/50	+3.0/50	✓
78+15	x/49	+4.1/49	+1.8/13	-1.7/10	-1.7/8	0/5	0/5	-1.0/8	-1.1/20	-7.6/31	-14.1/49		✓
77+50			+0.9/50	-3.0/18	-1.2/8	0/5	-16.6/32	-12.9/48	x/49				✓

21+82 = 0+00 Sherwood Br.

20+00 N.L. Depot (=7279+62.1)



13+88.1 Beg. 75# Rail C.F.&I. 1913.

13+79.9 F.E. 65# Rail

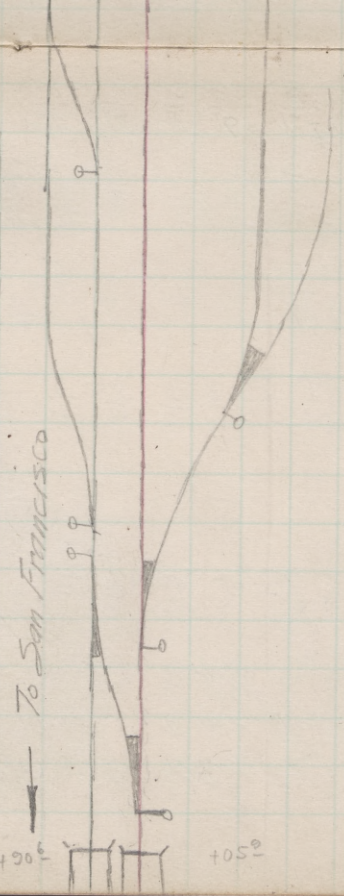
13+65.3 P.F. #9 - 65#

12+84.7 P.S. Boneyard.

12+37.7 P.F. #9

11+57.3 P.S. Crossover

11+47.4 E.E. Trestle # 139 F



7281+44.7 P.S.

7273+67.4 P.S.

7273+57.4 P.S.

7272+16.8 P.S.

7271+14.3 P.S.

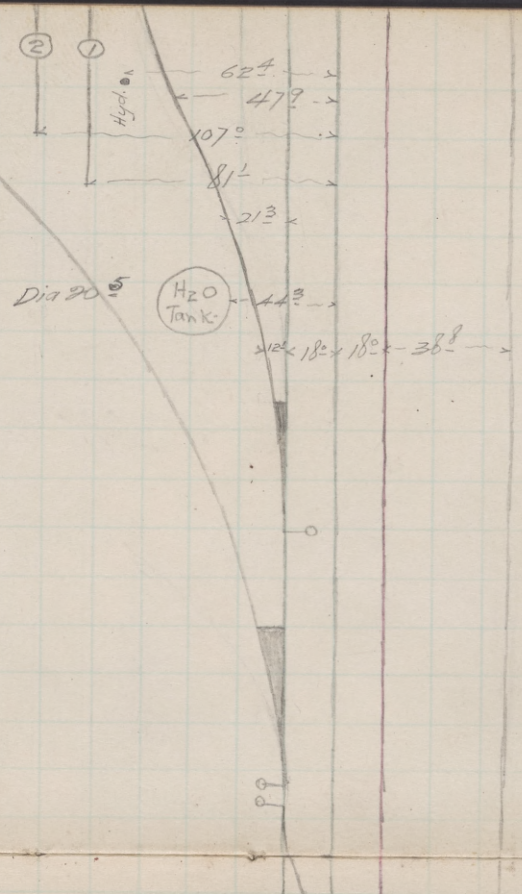
27+54.5 1" Hydrant.
27+50 offset.
27+40.7 End. Rip Tr. #2
27+13.7 " " " #1
27

26+61.5 N.L. Water Tank.
26+50
25+97.5 P.F. #9

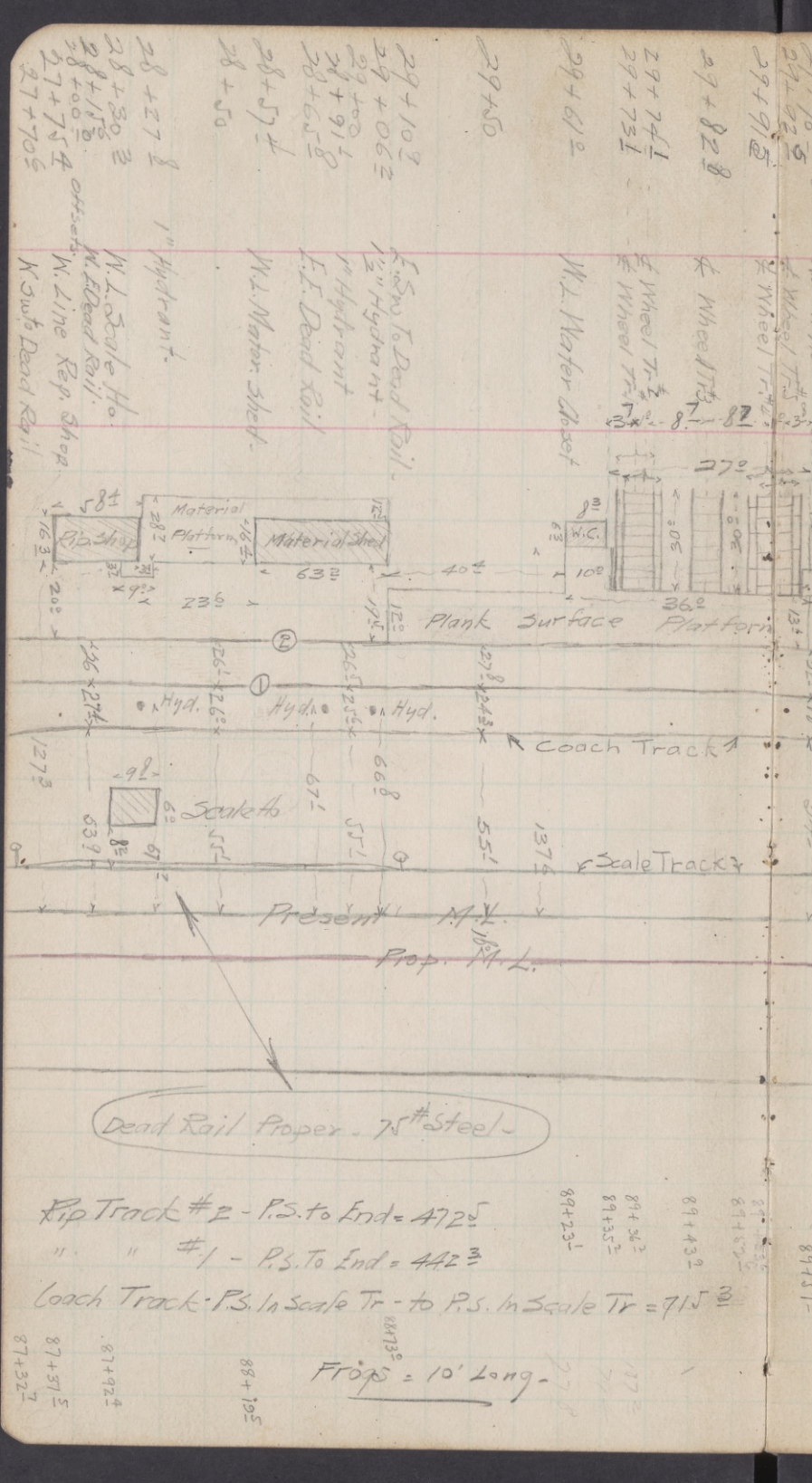
25+16.8 P.S. Coach Track.

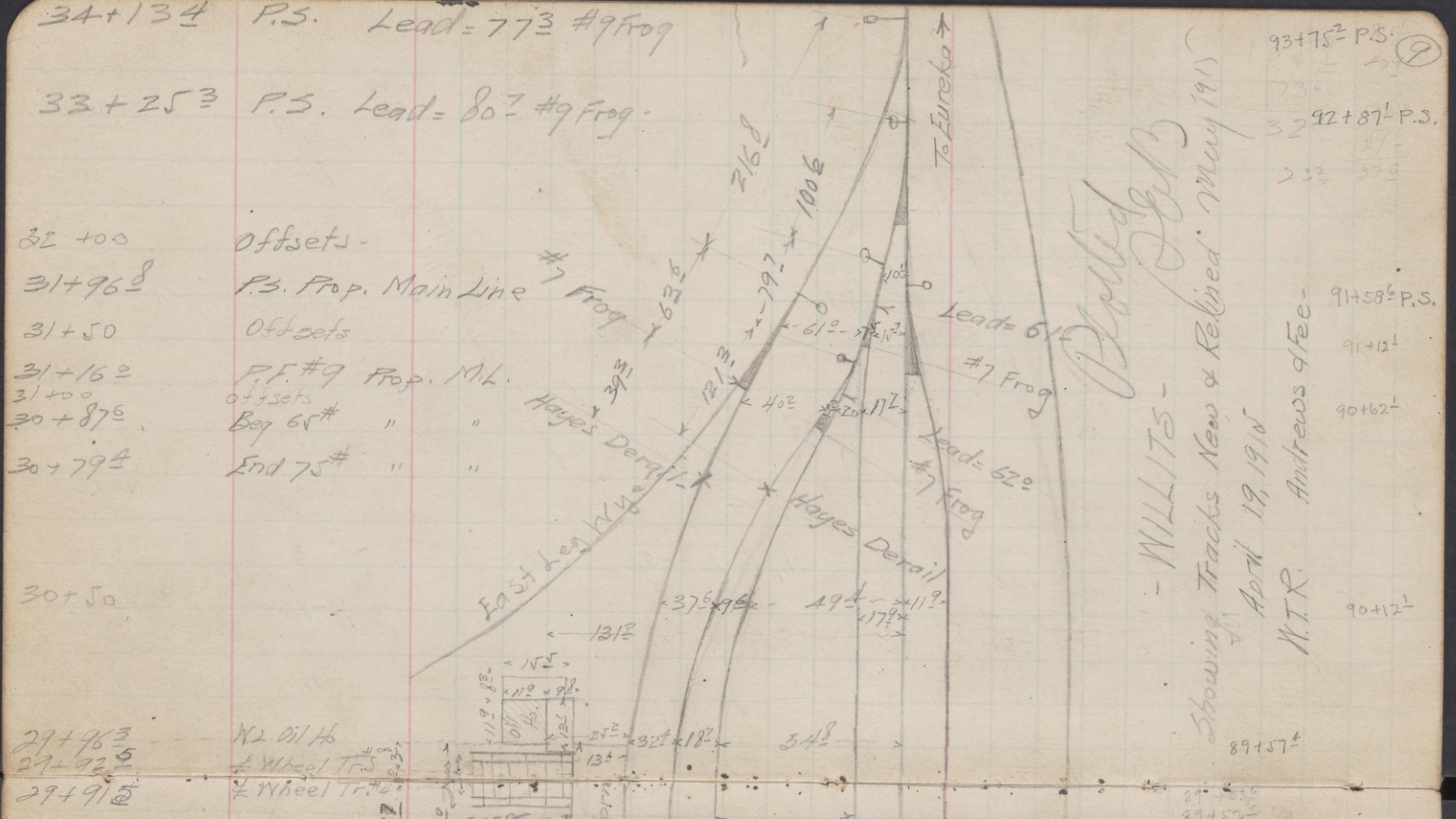
25+07.3 P.F. #9

24+28.5 P.S. Sherwood Br.
24+13.8 P.S. Cross. Over.



87+12.1
87+02.8
86+75.8
86+23.6
7284+80° P.S
7283+91.4 P.S
7283+76.5 P.S.


Material Platform
Material Shed
Rip Shop
Plank Surface Platform
Coach Track
Scale Track
Present M.L.
Prop. M.L.
Scale to
Hyd.
Dead Rail Proper - 75# Steel -
Rip Track #2 - P.S. to End = 472
" " #1 - P.S. To End = 442
Coach Track - P.S. In Scale Tr - to P.S. In Scale Tr = 715
Props = 10' Long -


34+13.4 P.S. Lead = 77.3 #9 Frog
33+25.3 P.S. Lead = 80.7 #9 Frog
32+00 Offsets
31+96.8 P.S. Prop. Main Line
31+50 Offsets
31+16.0 P.F. #9 Prop. M.L.
31+00 offsets
30+87.6 Beg 65# " "
30+79.4 End 75# " "
30+50
29+96.3 N.L. Oil Ho
29+92.5 ℄ Wheel Tr. #5
29+91.5 ℄ Wheel Tr. #4
93+75.2 P.S.
92+87.1 P.S.
91+58.6 P.S.
91+12.1
90+62.1
90+12.1
89+57.4
To Eureka
Lead = 61.0
#7 Frog
Lead = 62.0
#7 Frog
Hayes Derail
Hayes Derail
East Leg Wye
#7 Frog
216.8
100.6
79.7
63.6
121.3
39.3
61.0
40.2
17.7
37.6
49.4
11.9
17.9
131.2
15.5
11.9
9.8
25.2
32.4
18.7
34.8
13.4
Oil Ho.
Plotted
- WILLITS -
Showing Tracks New & Relined May 1915
April 19, 1915
W.T.R. Andrews & Fee -
9

5+50	92^{4}		$\frac{101^{3}}{40}$ $\frac{97^{0}}{15}$ $\frac{92^{1}}{8}$ 92^{4} $\frac{92^{5}}{12}$ $\frac{91^{1}}{16}$ $\frac{87^{0}}{40}$
4+75	91^{7}		$\frac{94^{2}}{60}$ $\frac{93^{2}}{35}$ 91^{7} $\frac{91^{0}}{17}$ $\frac{88^{5}}{50}$
4+20	92^{9}		$\frac{100^{8}}{70}$ $\frac{96^{8}}{20}$ $\frac{93^{2}}{14}$ 92^{9} $\frac{93^{0}}{4}$ $\frac{90^{1}}{9}$ $\frac{93^{0}}{12}$ $\frac{86}{52}$
3+70	91^{9}	Box Culv. 2x3x28	$\frac{93^{0}}{50}$ $\frac{90^{0}}{35}$ $\frac{89^{1}}{20}$ $\frac{93^{2}}{15}$ $\frac{93^{4}}{4}$ 91^{9} $\frac{89^{1}}{9}$ $\frac{88^{0}}{15}$ $\frac{85^{0}}{65}$
3+50	93^{9}		$\frac{92^{7}}{60}$ $\frac{91^{2}}{21}$ $\frac{93^{7}}{20}$ $\frac{94^{5}}{6}$ 93^{9} $\frac{90^{7}}{11}$ $\frac{88^{7}}{40}$
3+00	97^{7}		$\frac{101^{1}}{46}$ $\frac{102^{7}}{34}$ $\frac{104^{3}}{22}$ $\frac{97^{2}}{16}$ 97^{7} $\frac{102^{7}}{5}$ $\frac{102^{0}}{16}$ $\frac{99^{0}}{50}$
2+50	102^{5}		$\frac{106^{0}}{80}$ $\frac{108^{1}}{32}$ $\frac{109^{2}}{26}$ $\frac{105^{0}}{20}$ $\frac{99^{7}}{14}$ $\frac{99^{5}}{3}$ 102^{5} $\frac{107^{1}}{4}$ $\frac{106^{8}}{16}$ $\frac{103^{5}}{66}$
2+00	99^{8}		$\frac{109^{4}}{60}$ $\frac{108^{9}}{38}$ $\frac{101^{1}}{20}$ 99^{8} $\frac{98^{3}}{18}$ $\frac{107^{0}}{40}$
1+50	103^{0}		$\frac{110^{0}}{50}$ $\frac{109^{5}}{20}$ $\frac{102^{8}}{16}$ 103^{0} $\frac{110}{5}$ $\frac{108^{6}}{16}$ $\frac{108^{5}}{35}$
1+00	107^{9}		$\frac{110^{0}}{50}$ $\frac{109^{9}}{20}$ $\frac{107^{5}}{15}$ 107^{9} $\frac{107^{4}}{5}$ $\frac{109^{6}}{8}$ $\frac{109^{0}}{40}$
0+50	110^{0}		$\frac{110^{8}}{50}$ $\frac{111^{1}}{20}$ $\frac{110^{2}}{14}$ 110^{0} $\frac{109^{5}}{9}$ $\frac{110^{5}}{105}$ $\frac{110^{9}}{16^{5}}$ $\frac{110^{4}}{40}$
0+00	112^{5}		$\frac{112^{2}}{50}$ $\frac{113^{0}}{20}$ $\frac{112^{9}}{15}$ 112^{5} $\frac{112^{9}}{15}$ $\frac{112^{3}}{50}$

6412+35 — Cat. Guard & Wing Fence

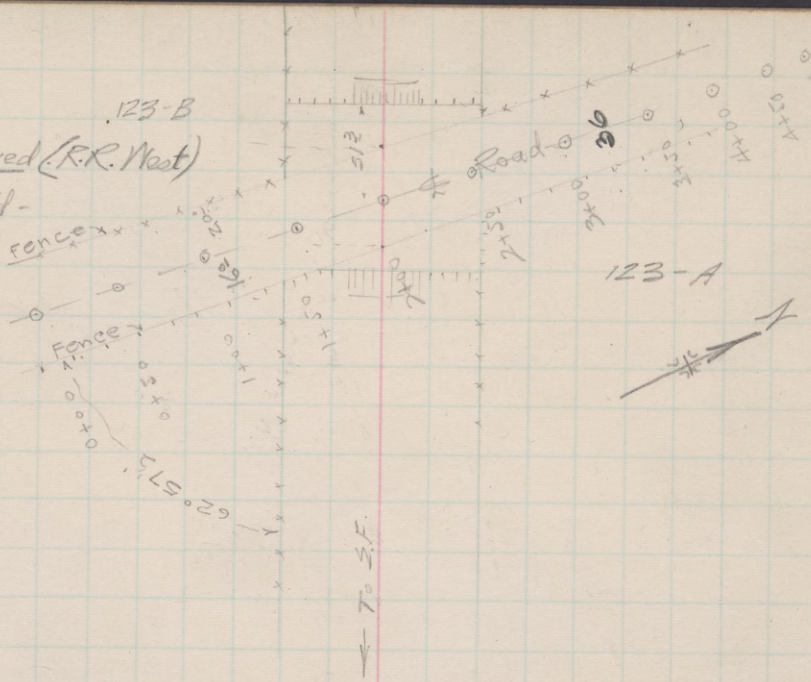
6412+06 — Line of Fence - Recently Moved (R.R. West)

6411+83 — Assumed Center of Road -

6411+65 — Line of Road Fence - (Old Locat.)

6411+53 — Cat. Guard & Wing Fence.

123-B



K.W. VALLEY — LAUGHLIN

X-Sections & Plan of Situation

Around Highway Xing - At Grade -

3-19-15

W.I.K.

Andrews & Jee.

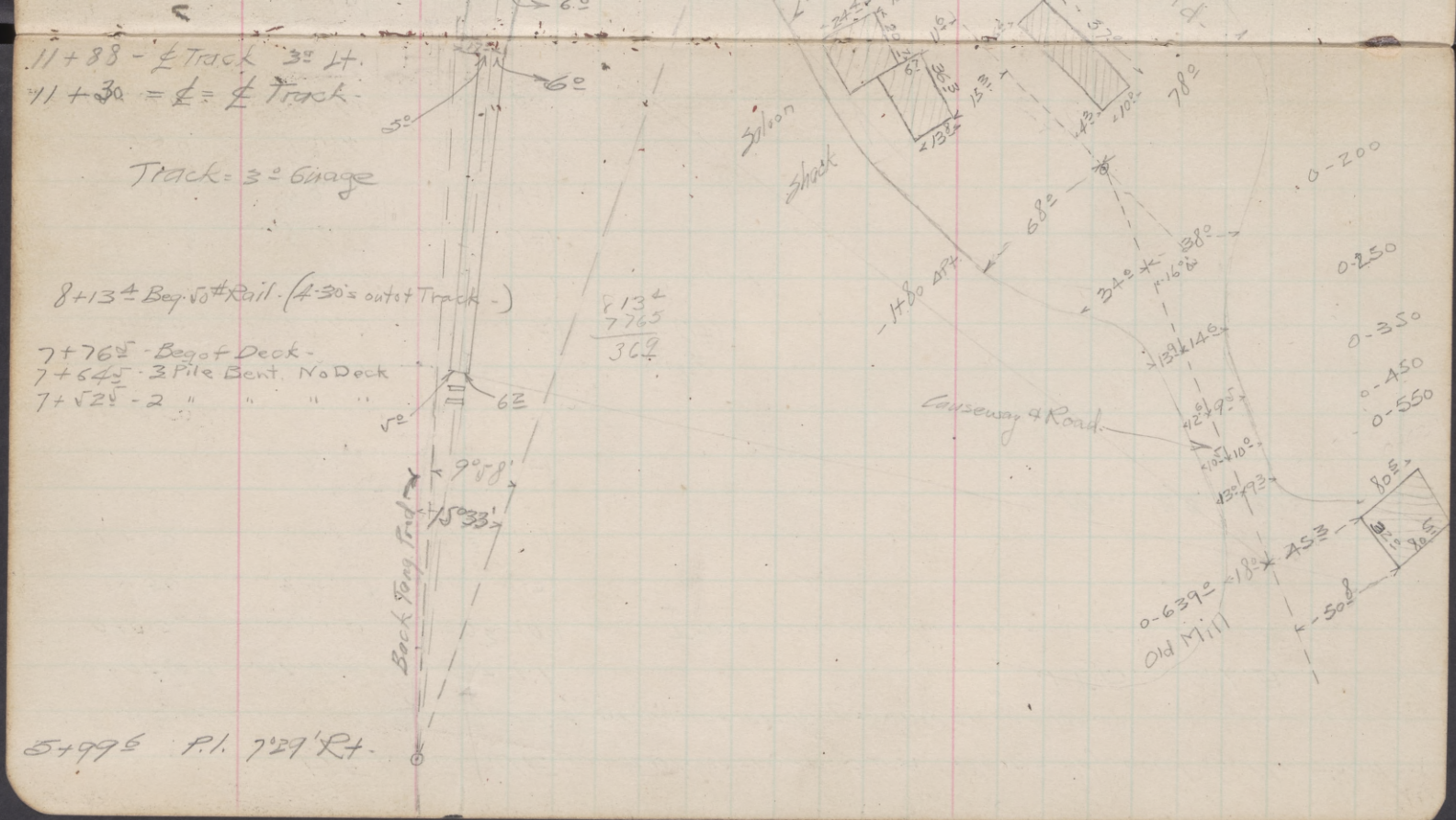
BELLEVUE - Ditch from 51-A West - Adjacent to Mr. Hood

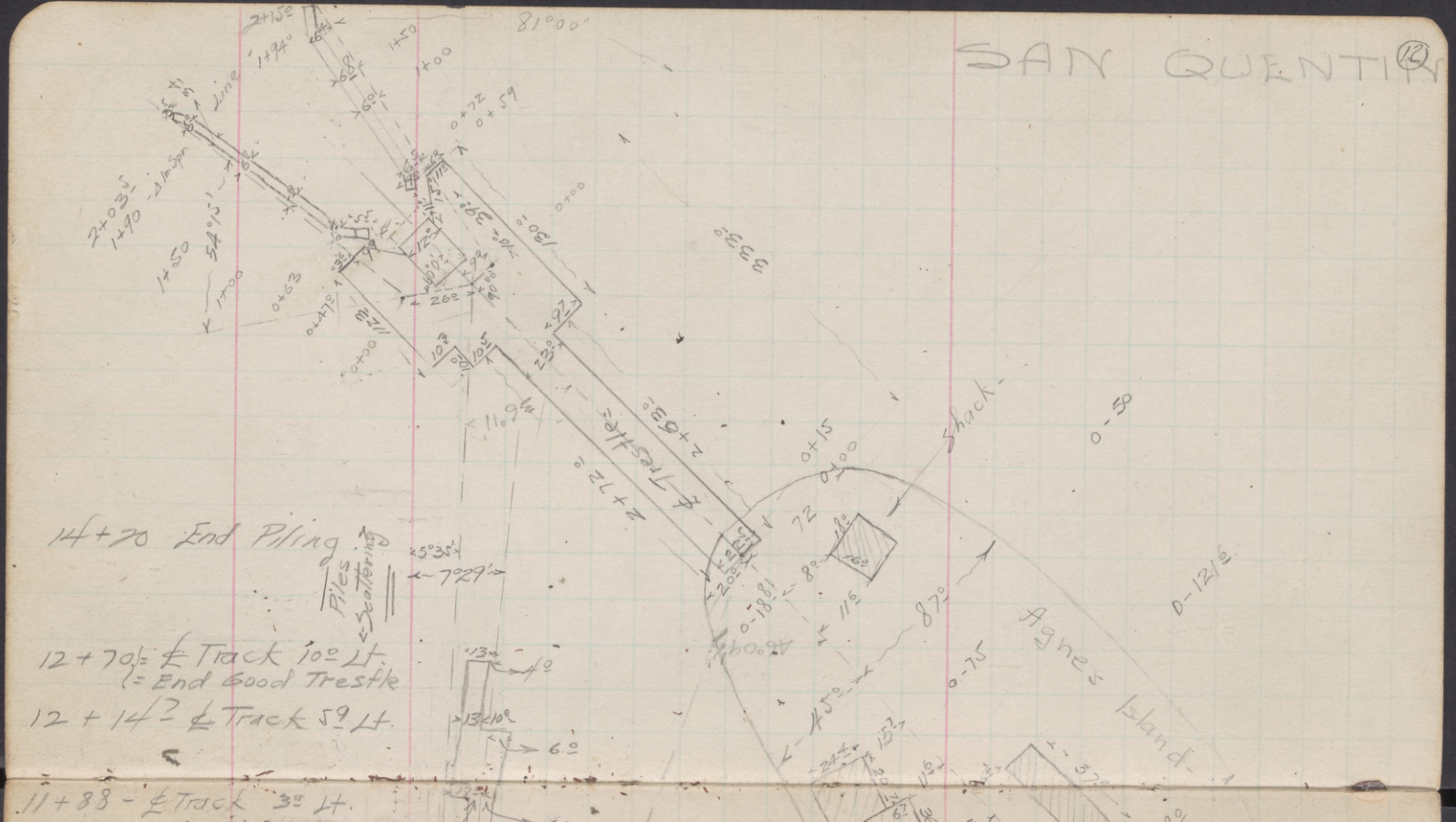
El. of Bottom 1+2 Box Culvert at lower end assumed at 100.00

J.F.B. - G.L.B.

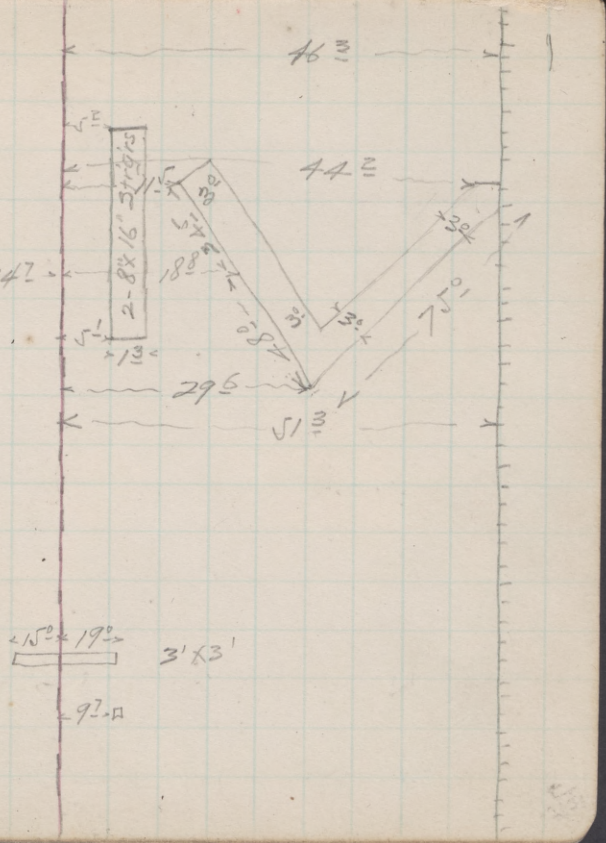
Mar. 23. 1915

Station	Gr. Elev.	Cut 1:1	
0+00	100.0	+0 8 -(0 7)	These cuts are for Lt. & Rt.
+50	99.89	+0 9 -(1 4)	
1+00	99.78	+1 3 -(1 8)	
+50	99.67	+1 0 -(1 5)	
2+00	99.56	+0 2 -(1 4)	
+50	99.44	+0 8 -(1 3)	
3+00	99.33	+0 8 -(1 3)	
+50	99.22	+0 7 -(1 2)	Rt. +0 9 -(1 4)
4+00	99.10	+0 9 -(1 4)	
+50	98.98	+0 8 -(1 3)	
5+00	98.85	+0 6 -(1 1)	
+50	98.72	+0 5 -(1 0)	
6+00	98.60	0.0 - 0.0	


11+88 - ℄ Track 3° Lt.
11+30 = ℄ = ℄ Track -
Track = 3° Gauge
8+13± Beg. ∨o #Rail - (4-30 = out of Track -)
7+76± - Beg of Deck -
7+64± - 3 Pile Bent. No Deck
7+52± - 2 " " " "
5+99± P.I. 7°29' Rt.
6°
5°
Saloon
Shack
68°
38°
1+80 Apx.
3+4 ± +
1°-16' Rt
Causeway & Road
Back Tong Rd
9°58'
5°33'
0-200
0-250
0-350
0-450
0-550
0-639±
18°
45°
50°
Old Mill
813
765
369


SAN QUENTIN
12
14+20 End Piling
Piles Scattering
25°35'
7029'
12+70± ℄ Track 10° Lt.
= End Good Trestle
12+14± ℄ Track 5° Lt.
11+88 - ℄ Track 3° Lt.
Agnes Island
Shack
81°00'
54°00'
87°
45°
3733'
2+735'
1+74'
2+03'
1+90
Alm Spr
1+50
1+00
0+63
0+72
0+59
0+15
2+72'
2+63'
4 Tres 1Rs
0-59
0-12½
0-75
0-18½
72
23°
39°
130'
110'
97'
111'
105'
102'
262'
13°
6.0°

6+41 E	E.E. Pass. Plat.
6+37 S E	E.E. Incline Bottom
6+28 E	" " " Top.
5+99 E	P.I. 1"x2". Stake - 7°29' Rt.
5+85 E	Station Sign San Quentin
5+57 1	W.E. Pass. Plat
5+50 E	W.E. Inclie Middle
5+15	Approx B.C.
4+89 E	Stake - P.O.T.
2+42 E	Box Culvert 20-A
2+08 E	M.P. 20 + 2 San Quentin 500 Feet" Sign
0+00	P.O.T. Stake.



- SAN QUENTIN -

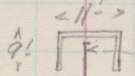
Location of New Ferry Slip, Agnes Island
Old Wharf, Old Mill, Causeway - Track, Etc.

4-14-17 -

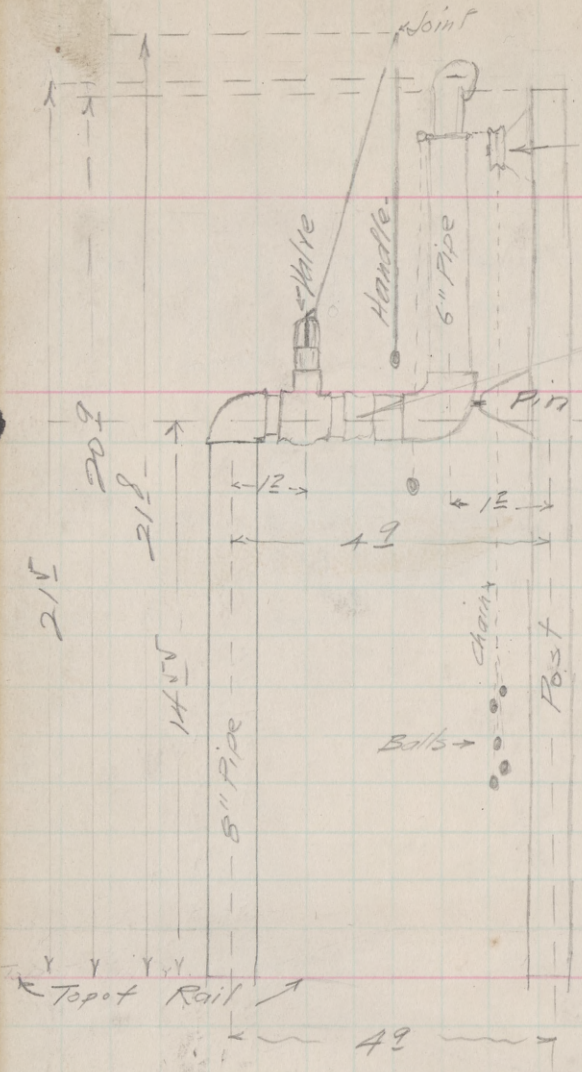
N.T.R.

6+96 E. Face Bumper.
6+91 End of Track

6+93 End of Fence.



46°



Clearance to Pipe = 8 1/2'

" " Post = 8 3/4'

- WILLITS -

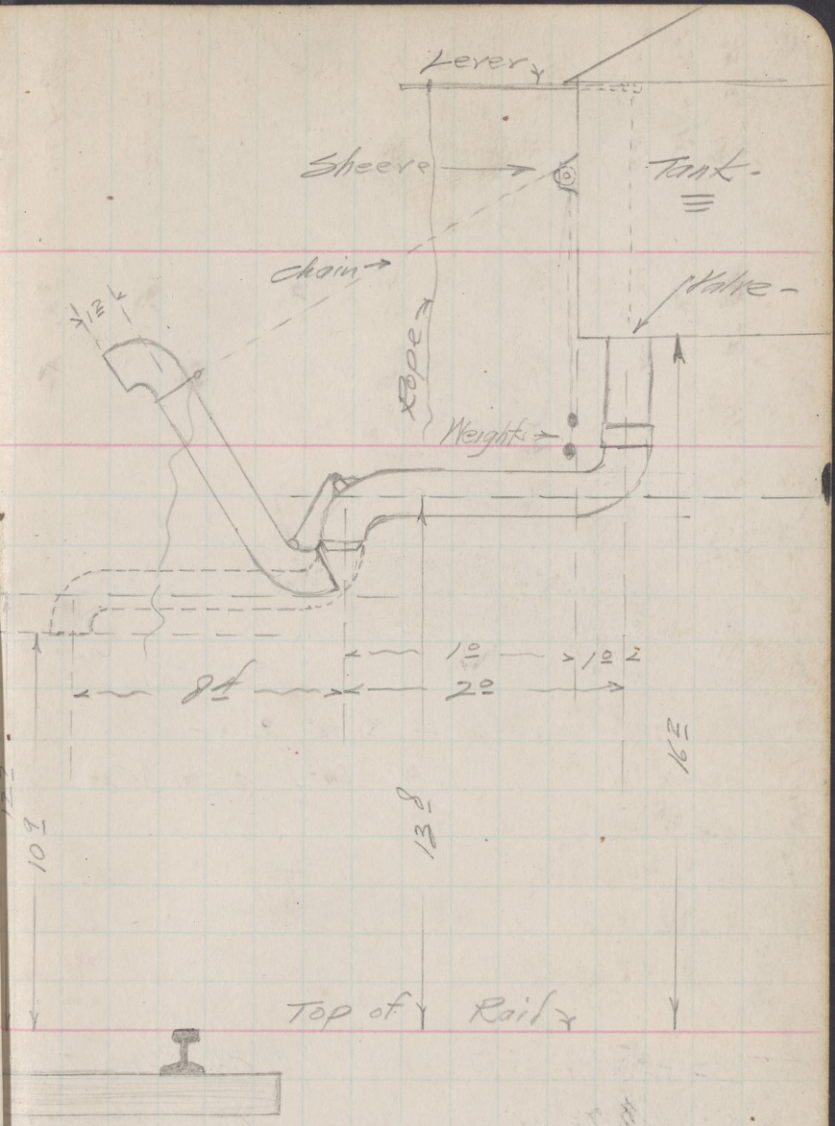
Height of Oil Column Above Top of Rail.

E.S. (T)

4-20-15 W.T.R.

Andrews & Fee

H-11



- WILLITS -

Height of Water Spout at Tank -

4-20-15 W.T.R -

Andrews & Fee -

739 + 36 B.C. Rt.

737 + 92.3 F.C.

729 + 42.0 B.C. 9° Lt.

729 + 79.5 P.I. W.L. Depot.

727 + 09.1 W.L. Tool Ho

721 + 89.3 P.S. To Ho Tr.

(721 + 47.3 Correct)

65# D.K. 1903-1
24" Angle Bars -
17 - 6x8 R.W. Ties
4 Bolts 3/4" x 4"
Hex. Nuts - Verona Nut Lox

— SHERWOOD to SWITCHBACK #1 —
Material And Approx. Curve Data
Apr. 15 - W.T.R. -
Andrews & Fee.

16+87 E.C. Rt

10+90 B.C. Rt

10+29 E.L. # 2 Cat. 6u.

5+00 E.C.

0+35 Ten Mile Sta =

761 +89 Stub Sw. =

761 +61 Rt Rail

761 +47 Lt "

759 +28 B.C. Δ° Lt =

759 +42 B.C. Lt =

754+20 E.C.

750 +61 Wing Fences & E.L. # Cat 6u.

745 +92 B.C. Lt

744 + 97 E.C. Rt

Curve Tie Plated -

No Tie Plates on This Tang -

Lead = 63 { #9 Rig. Fr. { 513' Spur - 498' - 56 #
30' - 56 #
168' - 80 #

Change Steel - L.I. & C. Co. Scranton 6-88

761 + 54 / 761 + 26 = Initial Pt.

50+90	B.C. Rt	
47+93	E.C.	
45+12	B.C. Rt	
43+00	E.C.	
39+40	C.C. 20° Lt	
35+70	B.C. Lt	
33+87		P.S.Co. - 56 - 8-12
		Scranton 56'
34+60	E.C.	
31+69.5	Ning Fences & Cat Gu. E.L.	
30+43	B.C. Rt	
26+95	E.C.	
24+89.4	B.C. Lt	Plated

No Tie Plates on Tangent

4 Bolts 3/4 x 3 1/2
Sqr. Nuts
24" Straps
Nut Lox

4 Bolts 3/4 x 4
Hex Nuts
24" L Bars
Nut Lox

76+17	E.E. Log Trestle
76+10	B.C. Lt.
75+33	W.E. Log Trestle
74+65	E.C.
74+60 } 73+50 }	Log. Gibbing — Very Sharp Curve 184 Uniform
72+60	B.C. Rt
64+80	E.C.
61+00	B.C. Lt
57+36.6 = / 57+86.6 =	.50
56+00	E.C.
55+50	B.C. Lt.
53+40	E.C.

94+00	B.C. Lt
93+40	E.C.
91+80	B.C. Rt
90+25	E.E. Log Trestle
89+65	W.E. Log Trestle
85+58	L.I. Co. Co. 56# / P.S. Co. 54#
85+65	E.C.
85+43	Wing Fences & E.L. Cat. Gu. #2
83+25	B.C. Lt
80+40	E.C. Lt
78+25	E.E. Log Trestle
77+50	W.E. Log Trestle

24" Angle Bars
3/4 x 4 Bolts Hex Nuts

540

102+24

109+13.5	E.C.
106+50	B.C. Rt
106+00	E.C.
101+97.4	Pt. Stub Sw. Lead = 63.4
101+10	B.C. Lt
100 + 60	E.C.
98 + 31.3 =	B.C. Rt.
98+58.1 =	
96 + 53.3	Pt of 5° Bend -
95+84.3	Pt. Stub Sw. to Old Cook Ho - Lead - 63.4 #9 Rigid Frog - 9' Long -
94+75.1	E.E. Steel Surf. Cat. bu. No Fences
94+60	E.C.

119+20 E.C.

118+57 ℄ Rd Xing

118+20 B.C. Lt.

115+60 Pt. Stub Sw Lead = 63′ 9′-#9 Rigid 56# Frog-

114 55′6″ 56# Rail In Use As Anti Creeper-

113+02 E.C.

112+25 B.C. Curve Rt

111+22 E.E. Log Trestle-

110+38 N.E. Log Trestle-

110+33 Break In Rail Scranton 56# / Maryland 65#

110+31 P.S. Lead = 79′ 15′-# { Siding = 56# Rail / East Sw = 146′-65# Rail, 30°-65# Frog, 30°-65# Points

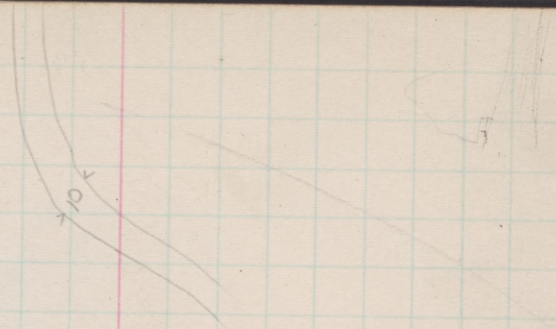
109+43 Rt Rail } Maryland-65# / Scranton-Lacka. 146.

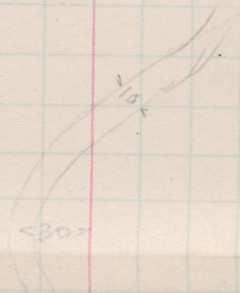
109+13 Lt " }

133+22.5	E.E. Trestle - Log -
131 +65.5	Beg Gu. Rail -
131 +40	Pt. R.C.
131 + 27 —	W.E. Log trestle -
131 + 26.9	E.E. Gu. Rail 56#
130 + 33.?	℄ Road Xing
128 + 23.4	W.E. Gud Raill 56#
127 + 95	B.C. 30° Lt
127 + 10	E.C.
125 + 60	B.C. Rt.
124 + 50	
124 + 60	E.C.
123 + 50	B.C Rt
122 + 80	E.C.
120 + 50	℄ Rd Xing -
120 + 40	B.C. Rt.

Continuous Ls -

No Brand - - Straps.





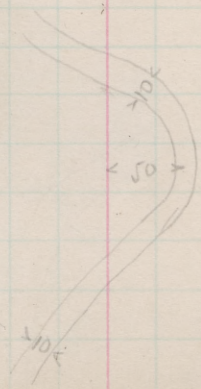
142+30	E.C.
141+12	B.C. Rt
140+25	E.C.
138+50	
138+20	B.C. Lt.
137+22.5	E.E. Bridge
136+11.5	W.E. Bridge Logs-
136+05	Rd Xing
135+10	E.C.
134+53	Rd Xing-
133+59.8	End Gud Rail 56# - strapped

19-56# Tie Bars-

½ Straps
½ Angle Bars

Barrow 56#
Scranton 56#

Continuous Jts-



159+40	E.E. Trestle-			
157+95	B.C. Rt			
156+82½	W.E. Trestle- Pile			
156+54.8	Beg. Gu. Rail 56#	½ Angle Bars ½ Fish Plates-	Scranton 56# Barrow 56#	
155+15				
		Fish Plates-		
153+50	E.C.			
152+30				
151+00	B.C. Rt			
150+54.3	W.L. Water Tank-	24" Angle Bars-	H_2O <- 8 7 ->	Dia 11.5 - Depth = 8' Spout 10.5 Above Top of Rail- 5500 Gal. Tank-
150+00				
		Fish Plates		
146+05	E.E. Log Trestle			
145+20	W. E. Log Trestle-			
142+50				

175 + 85	P.R.C.	½ Fish Plates
174 + 50	E.E. Trestle	½ Angles
174 + 10	B.C. Rt	
173 + 00	W.E. Trestle (Log.)	
170 + 50		
169 + 90	E.C.	
167 + 82	B.C. Rt	
164 + 70	E.C.	
162 + 80	B.C. Rt	
162 + 45	E.C.	
160 + 65	P.R.C.	
160 + 16.3	End 56# Gu'd Rail	

½ Angles – ½ Fish Plates – Fish Plates
Hex Nuts ¾"x4" Bolts

14-56# Die Bars

0+00 =
170+09.5 =

187+59^{5}	Beg. Gud Rail.	Scranton 56#
		P.S. Co. 56#
186+75	E.C.	
183+75	B.C. Lt.	12 Pairs Cont. Ho-
183+45	E.C.	
181+50	B.C. Rt	
182+01	Nail In Tie	
181+88	E.E. Pile Trestle.	
180+35^{6}	W.E. Pile Trestle	P.S. Co 56#
		Scranton 56#
8+12^{2}	E.C. =	
8+75^{4}	E.C. =	8+75^{4}
176+10		½ Fish Plates
175+85	P.R.C.	½ Fish Plates.
		½ Angles

201 + 90	B.C. Lt.
198 + 35	E.C.
197 + 45 4	Lt. Rail
197 + 33 9	Rt. Rail
197 + 35	B.C. Rt.
194 + 35	E.C.
192 + 90	B.C. Lt.
192 + 25	E.C.
192 + 12 8	End of Gu'd Rail
190 + 75	E.E. Trestle
188 + 90	W.E. Pile Trestle
187 + 75	B.C. Rt

24" Angles
4 Bolts 3/4 x 4
Hex nuts
nut lock

Maryland & Carnegie - 60#
Scranton 56#

210 + 76	I.E. Trestle-	
209 + 015	W.E. Pike Trestle-	
208 + 10	B.C. Rt	
208 + 079	Beg. Guard Rail - 50#	Barrow 56# / Scranton 56#
207 + 85	E.C.	
207 + 35	Lt. Rail	Scranton 56# / Maryland & Carnegie 60#
207 + 52	Rt. Rail	
206 + 00	B.C. Lt.	
204 + 15	E.C.	
203 + 00	B.C. Rt	
202 + 06	E.C. -	

220+31	Rt. Rail	Scranton, Barrow & P.S.Co - 56
226+75	B.C. Lt	
225+56	E.E. Trestle	
224+45	W.E. Pile Trestle -	
223+55	E.C.	
223+46	E.E. Trestle -	
222+03	W.E. Pile Trestle -	
221+35	B.C. Rt	
219+45	E.C.	
215+45		
215+00	B.C. Lt	
211+31.9	End 50#6d Rail -	
211+28	E.C.	

22" Stoop
4 Bolts

Dosts on this curve

22" Angles -
4 - 3½ x ¾" Bolts
tex Nuts & Nutlock

— SHERWOOD to
Material & Hy
N.T.R.
- Andrews - &

Bank Around This Curve 8' High
and 6' Clearance 300'

Assumed Sta. Carried Forward -

0+00	=	Tail Track for Sw. Bck -
242+00	=	P.S. Lead = 68.8
241+31.5		P.F. #
241+30	=	W. E. Trestle -
239+50		E.C. -
236+10		B.C. Lt.
234+85		E.C.
232+85		B.C. Lt.
232+00		E.C.
230+70		B.C. Rt.
229+60		E.C.
228+50		P.C.C.
228+48.6		Lt. Rail }
228+37.3		Rt. Rail }

24" Angles.
4 - 3/4 x 4" Bolts.
Hex Nuts.

Maryland 60#

Scranton, Barrow & P.S.Co - 56

= E.S. 71+56.43 Ass. Sta. (22)

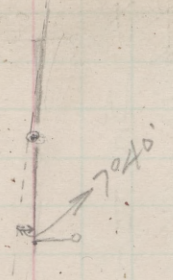
= E.S. 71+46.53 Williams Sta.

E.S. 71+90.50 Corrected Sta.

To Switch Back #1 -
& Approx. Curve Data
Apr. 21, 15 -
R. & Fee -

72+25 4 P.F. #7½ 60# Frog- 0°05' Lt

71+88 40 P.I. Turnout #7½ 7°40' Lt



+ 71+56 43 = P.S. Switch #1 10 Mile Extension

71+46 53 = Williams Stationing | See Level Book #113 page 13.

5+45 8 End of Tail Track

5+40 E.C. 60# Maryland See 244

4+75 E.E. Pile Trestle- 24" Angles-

3+62 W.E. Pile Trestle- 4-3/4" x 4" Bolts-

3+62 P.C.C. Hex. Nuts- Nut Lox

2+40 E.E. Pile Trestle-

2+00 P.C.C.

0+00 P.S. Switch Back Tail Track

Tail Track At 1st Switch Back

Sta.	Descrip	Deflect.	Curve Elements	Dist. to Present ℄
77				℄
76+42 89	E.C.			0 06 Rt
76 + 05			Length = 108 89	0 25 Lt
+ 88				0 09 Lt
+ 70				0 17 Rt
75+34 00	B.C. 12° Rt		P.I. = 75+88 7 Δ = 13°04	
+33 52	P.O.T. Stake		Ext = 3 03 S.T. = 54 70	
75				0 10 Rt
74 +73 0	E.E. Trestle			
74				
73 + 48 4	W.E. Pile Trestle			0 10 Rt
73+41 78	E.C.		P.I. 73+15 15	0 07 Rt
73+15 0			Ext = 0 31	0 11 Lt
72+88 45	B.C. 5° Rt		Δ = 2°40'	0 15 Lt
			S.T. = 26 70	

Alignment Switch back #1 to #2 → #2 #1

To Sherwood

82 + 93 25 N.E. Trestle-

82

81+07 82 E.C. 22°00.0'

+75 18°28.3'

+50 15°47.0'

+25 13°05.8'

80 10°24.5'

+90 70 E.E. File Trestle

+75 7°43.3'

+50 5°02.0'

+25 2°20.8'

79+03 17 B.C. 21°30' Rt 0°00'

78

77+46 3 N.E. File Trestle-

#3

80+11 P.I. Δ=44°00' Rt.

D.T. = 107 83 L. of C. = 204 65

0 11 Lt

0 32 Rt

0 55 Rt

0 50 Rt

0 07 Rt

0 05 Lt

0 06 Lt

0 10 Rt

0 50 Rt

0 45 Rt

0 12 Rt

Station	Description	Deflections	Elements of Curves		Dist to Pres. ℄
+50		2°56.5'	88+63 41 = P.I.	Δ = 13°40' Rt	0 15 Rt
88		1°06.5'	Ext = 5 6	S.T. = 93 64	0 45 Rt
87+69 77	B.C. 7°20' Rt	0°00'	L. of C. = 186 37		0 31 Rt
87+69 22	P.O.T. Stake-				
87					0 10 Rt
86					0 08 Rt
85 +32 1	E.E. Trestle				
85+06 58	E.C.	1°27.0			0 20 Rt
85		1°23.4	#4		0 20 Rt
+50		0°55.9			0 10 Rt
84		0°28.4	Δ = 2°54' Rt	S.T. = 79 07	0 17 Rt
83+48 37	B.C. 1°50' Rt	0°00'	84+27 44 P.I.	L. of C. = 158 21	℄
Apr. 23, 1915.					
83+17 3	Lt. Rail	Maryland 65#	24" Angles-	4-Bolts 4" x 3/4" - Hex Nuts -	
83+03 2	Rt Rail	Maryland 60#			
83					0 07 Lt

+25		11°46'		0 30/100 Rt
94		8°59'	95+31 81/100 P.O.S.T.#2 Δ#2=41°18'	0 20/100 Rt
+75		6°12'		0 10/100 Lt
+50		3°25'	93+77 24/100 P.O.S.T.#1 Δ#1=25°20'	℄
93+19 31/100	B.C. 22°16' Lt	0°00'		0 02/100 Rt
93				0 09/100 Rt
92+74 7/10	W.E. Pile Trestle		April-24-1915	
92+31 08/100	E.C.	19°42.0	#6	0 04/100 Rt
92		16°18.4	Δ=39°24' Rt Ext=16 35/100	0 07/100 Lt
+50		10°50.9	91+44 77/100 = P.I. S.T.=94 10/100	0 10/100 Lt
91		5°23.4	L of C.=180 46/100	℄
90+50 67/100	B.C. 21°50' Rt	0°00'		0 34/100 Rt
90				0 04/100 Rt
89+56.14	E.C.	6°50.0		0 04/100 Lt
89		4°46.5'	#5	0 20/100 Rt

Station –	Description	Deflections	Curve Elements – (25)	Distance to Present ℄
+50		9°11.4	#8	0 20 Lt
98		6°16.4	See Page 26 60.38	0 20 Lt
+50		3°21.4'	99+88 90 P.O.S.T. #2 Δ #2 = 22°30 (62 96 West of E.C.)	0 20 Lt
97 +92 85	Stake –	0°26.4	98+00 54 P.O.S.T. #1 Δ #1 = 25°10' (108 08 East of B.C.)	0 08 Lt
96+92.46	B.C. 11°40' Rt	0°00	109.67	0 05 Lt
		April 26 – 1915		
96+18.56	E.C.	33°19'		0 25 Lt
96		31°15'		0 36 Lt
+75		28°28'		0 34 Lt
+50		25°41'		0 33 Lt
+25		22°54'	#7	0 08 Rt
+04 2	E.E. Pile Trestle			
95		20°07'	22°16' Curve Lt Length = 399 25	0 02 Rt
+75		17°20'	94+88 51 Calcul. P.I.	0 02 Rt
94+50		14°33'	S.T. 169 20 Δ = 66°38'	0 10 Rt

+25		2°13.3'		104+62 60 P.I. Δ=24°18' (Rt)	0 38/100 Lt
104+03 84/100	B.C. 21°00' Lt	0°00'			0 15/100 Lt
103					℄
102+86 36/100	E.C.	9°15'	#9	21°40' Curve R=264.5 ft	0 18/100 Rt
+75		8°01.1		S.T.=43 08/100 Length Arc=85 40/100	0 20/100 Rt
+50		5°18.6		102+44 06/100 P.I. Δ=18°30' Rt	℄
+25		2°36.1			0 30/100 Rt
102+00.98	B.C 21°40' Rt	0°00'			0 22/100 Rt
101					0 20/100 Lt
100+46 75/100	E.C.		9°00'	See Page #25	0 01/100 Lt
+25		Δ 18°80'	7°02.5	S.T. West = 205 59/100 ✓	0 06/100 Rt
100			4°47.5	" East = 171 31/100 ✓	0 03/100 Lt
+75			2°22.5'	Δ=47°40'	0 15/100 Rt
+47 17/25	Stake-				
99+46 75/100	C.C. 18° Rt	14°50'0"	0°00'	Length 18° Curve = 100.00 feet	0 16/100 Rt
99+00		12°06.4'		" 11°40' " = 254 29/100 "	0 10/100 Lt

Station	Description	Deflection	Curve Elements	Dist. to Pres. ℄ →
107+73 62	E.C.	23° 30'		0 11 Rt
+50		20° 54.1'		0 05 Rt
+25		18° 09.1'	22° Curve Rt. Δ = 47°00'	0 04 Lt
107		15° 24.1'	S.T. = 113 26 Length Curve = 213 64	0 13 Lt
+75		12° 39.1'		0 07 Lt
+50		9° 54.1'	#11	℄
+25		7° 09.1'		℄
106		4° 24.1'	107+31 61 P.O.S.T. Δ = 14°30' (48 10 W. of E.C.)	0 07 Rt
+75		1° 39.1'	106+42 88 P.O.S.T. Δ = 32°30' (82 90 E. of B.C.)	0 13 Rt
105+59 98	B.C. 22° Rt	0°00'		0 18 Rt
+44 71	E.E. Pile Trestle		April 27-1915	
105+19 53	E.C.	12° 09'		0 22 Lt
105		10° 05.8'		0 27 Lt
+75		7° 28.3'	#10	
+75 4	W.E. Pile Trestle		21° Curve Lt. Δ = 24°18'	0 04 Lt
+50		4° 50.8'	S.T. = 58°76' Length Arc = 115 71	0 18 Lt

113+76 44	E.C.	2°39'	8°10' Curve Δ = 5°18' Lt	0 11/100 Lt
+43 99	c/r of Curve	1°19.5'	113+44.02 P.I.	0 02/100 Rt
113+11 54	B.C. 8°10' Lt	0°00' #13	S.T. = 32.48 Length Arc = 64.90	0 10/100 Lt
113				0 01/100 Lt
112				0 05/100 Lt
111				0 05/100 Lt
110				0 05/100 Rt
				℄
+82 50	E.E. Pile Trestle.			
109+50.06	E.C.	16°21.0'		0 05/100 Lt
+25		13°31.8'	22°30' Curve Δ = 32°42'	0 19/100 Lt
109		10°43.1'	S.T. = 74 73/100 Length = 145 33/100	0 10/100 Lt
+75		7°54.3'		0 05/100 Lt
+50		5°05.6' #17	109+99 37/100 P.O.T. 4°58' Lt (49.35 E. of E.C.)	0 12/100 Lt
+33 6	N.E. Pile Trestle.		108+56 37/100 P.O.S.T. 27°44' Lt (51.64 E. of B.C.)	
8+25		2°16.8'		0 20/100 Lt
108+04 73/100	B.C. 22°30' Lt	0°00'		0 22/100 Lt

Station	Description	Deflection	Curve Elements-	Dist. to Pres. ℄
+50		15°21.0'		0 5/10 Rt
+25		12°33.5'	22°20' Curve Lt Δ = 77°16'	0 22/100 Rt
117		9°46.0'	S.T. ℄ 205 12 Length Arc = 345 87	0 10/100 Rt
+75		6°58.5'		0 75/100 Lt
+50		4°11.0'	#14	0 39/100 Lt
+35±	N.E. Trestle (Pile-)		218+17 56 P.I.	
+25		1°23.5'		0 30/100 Lt
116+12 54/100	B.C. 22°20' Lt	0°00'		0 22/100 Lt
+12 09/100	Stake-			0 11/100 Lt
116				0 16/100 Rt
+50				0 25/100 Rt
115				0 25/100 Rt
+50				0 8/100 Lt.
114				
+88 7	E.E. Pile Trestle			
113+42 7	W.E. Pile Trestle-			

121		8°34.6	123+57.81 P.O.S.T. Δ=28°54' (65.88 M. of E.C.)	0 2.0 Rt
+75		5°46.3	122+26.20 Dutch P.I. Δ=31°10'	0 1.9 Rt
+50 +24.28	Stake-	2°58.1	120+81.25 P.O.S.T. Δ=28°00' (57.71 E. of B.C.)	0 1.9 Rt
120+23.54	B.C. 22°26' Rt	0°00'		0 1.0 Rt
120			April 28 - 1915	
119.+58.51	E.C.	38°38'		0 3.2 Lt
+35.2	E.E. Pile Trestle			
+25		34°53.5'		0 1.5 Lt
119		32°06.0'		0 0.6 Lt
+75		29°18.5'		0 2.0 Rt
+75.2	W.E. Pile Trestle			
+50		26°31.0'		0 3.4 Rt
+25		23°43.5'		0 2.3 Rt
118		20°56.0'		0 0.1 Rt
+75		18°08.5'		0 1.0 Lt
117+63.3	E.E. Trestle (Pile)			

Station -	Description	Deflection -	Curve Elements -	Dist. to Pres. ℄ (28)
125				0 05 Rt
+50				0 02 Rt
124+16 12	P.C.	44° 02'		0 09 Rt
124		42° 13.6		0 14 Rt
+75		39° 25.4		0 14 Rt
+50		36° 37.1		0 28 Rt
+25		33° 48.9	22°26' Curve Δ = 88°04' Rt	0 52 Rt
123		31° 00.6	S.T. = 247 03 Length Arc = 392 58	0 23 Rt
+75		28° 12.4	R = 255 51	0 12 Lt
+50		25° 24.1		0 07 Lt
+25		22° 35.9		0 07 Rt
122		19° 47.6		0 06 Rt
+75		16° 59.4		0 05 Rt
+50		14° 11.1	#15	0 15 Rt
+25		11° 22.8		0 17 Rt

128+77 72	E.C.	38° 14.		0° 4 Lt
+50		34° 58.0		0 2.5 Rt
+25		32° 10.2		0 20 Lt
128		29° 22.5'	#16	0 05 Lt
+75		26° 34.1'		℄
+50		23° 47.0		℄
+25		20° 59.2'	22° 22' Curve Δ = 76° 28'	0 04 Rt
127		18° 11.5	S.T. = 201 20 Length Arc = 341 88	℄
+75		15° 23.7	R = 256 27	℄
+56	M.E. Pile Trestle			
+50		12° 36.0		0 03 Lt
+25		9° 48.2'	128+56 29 P.O.S.T. Δ = 18° 32' (268 89 N. of E.C.)	0 06 Rt
126		7° 00.5'	127+38 35 Dutch P.I. Δ = 28° 40'	0 10 Lt
+75		4° 12.7	125+86 22 P.O.S.T. Δ = 29° 16' (496 8 E. of B.C.)	0 15 Lt
+50		1° 35.0		0 16 Lt
125+35.84	B.C. 22° 22' H	0° 00'		0 18 H

Station	Description	Deflection	Curve Elements -	Dist. to Pres. ℄
+25		31° 19.2'		0 35 Rt
132		28° 35.5'		0 55 Rt
+75		25° 41.7'		0 42 Rt
+50		22° 58.0'	21°50' Curve Δ = 73°56'	0 31 Rt
+25		20° 14.2'	#17 S.T. = 197 58 Length Arc = 338 63	℄
131		17° 30.5'	R = 262 52	0 02 Lt
+75		14° 46.7'		0 05 Rt
+50		12° 03.0'		0 22 Lt
+25		9° 19.2'		0 10 Lt
130		6° 35.5'		0 40 Rt
+75		3° 51.7'	132+49 43 P.O.S.T. Δ = 25°26' (394 N. of E.C.)	0 50 Rt
+81 8	E.L. Pile Trestle		130+46 49 P.O.S.T. Δ = 48°30' (106 88 E. of B.C.)	
+50		1° 08'		0 43 Rt
129+39 61	B.C. 21°50' Rt	0°00'		0 26 Rt
129				℄

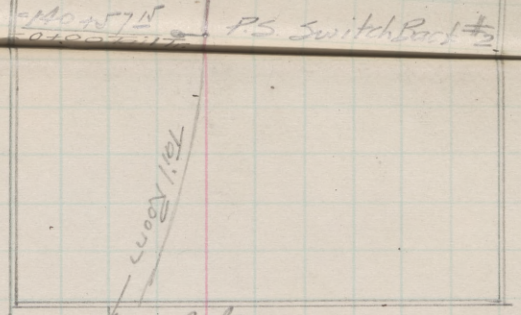
137		3° 53.5'	137+13.03 P.I. Δ=17°46' Lt	0.32 Rt
13 +50		1°38.5	Ext = 7.63	0.30 Rt
136+13.50	B.C. 9° Lt.	0°00'		0.03 Lt
+12.67	Stake.			
136				℄
+50				0.12 Lt
135				0.02 Lt
134+65.62	E.C.	11°33'		0.47 Lt
+50		10°22.7'	15° Curve Δ = 23°06' R=382.24	0.70 Lt
+05.5	E.E. Pile Trestle.		#18 S.T. = 78.11 Length Arc = 154.00	
134		6°37.7		0.18 Lt
+50		2°52.7'	135+01.71 P.O.T. Δ = 6°14' (36.09 E. of E.C.)	0.11 Lt
133+11.62	B.C. 15° Lt	0°00'	133+47.00 P.O.S.T. Δ = 16°52' (35.38 E. of B.C.)	0.25 Lt
133				
+81.5	W.E. Pile Trestle			
132+78.24	E.C.	37° 08'		0.11 Rt
132+50		34° 03.0'		0.26 Rt

Station	Description	Deflection	Curve Elements -	Dist. to Pres. ℄ (30)
1+17.51	E.C.	12° 27'	13°12' Curve Arc = 188.64	0.10 Rt
+ 82.85		10° 09.8	S.T. = 95.88 R = 434.30	0.16 Rt
0 + 42.85		7° 31.4'	#20	0.07 Lt
140 + 57.15 = 0+00 Tail Track		P.S. - Switch Back #2 -		
+50		4°13.4'	141+17.08 P.O.S.T. Δ = 16°24' (58.39 W. of E.C.)	0.78 Rt
140		0°55.4'	140+10.28 P.O.S.T. Δ = 8°30' (24.26 E. of B.C.)	1.14 Rt
+77.9	P.F. #9-65# Switch Back #2			
139+86.02	B.C. 13°12' Rt	0° 00'		0.90 Rt
+50				℄
139				0.09 Lt.
+50				0.04 Rt
+11.32	Stake			
138+10.91	E.C.	8°53'		0.08 Lt
138		8° 23.5'	9°00' Curve R = 636.78	0.07 Lt
+50	#19	6° 08.5'	S.T. 99.53 Length Arc = 192.41	[illegible]
137		3° 53.5'	137+13.03 P.I. Δ = 17°46' Lt	0.16 Rt

5			
4+67.32	E.C.	16°00'	0.12 Rt
+50		14°11.6'	0.10 Rt
+25		11°35.1	0.06 Lt
4	#21	8°58.6'	0.14 Lt
+75	32°00'	6°22.1'	0.35 Rt
+50		3°45.6'	0.62 Rt
+25		1°09.1'	0.46 Rt
3+13.96	B.C. 20°52' Rt	0°00'	0.38 Rt
2+72.33	Offset State	10.20 Rt	℄
+50			0.02 Lt
+47.6	E.E. Pile Trestle-		
2			0.03 Lt
+50			℄
1+36.5	N.E. Pile Trestle-		

20°52' Curve Arc=153.36
S.T.=78.76 R=274.67

Tail Track Alignment



3+89.80 Offset P.I. 10.2 Rt
Δ=32°00' Rt

Station Description Deflection

Curve Elements

Distance to Present ℄

138+10.91 E.C. 9° Lt

To Switchback #1

Railroad East

142+76.07 B.C. 15° 48' Rt

- SWITCHBACK BACK #2 -

7° 44'

139+77.9 P.F. #9

140+10.28 = 141+04.02

7+90.2 End of Track

7

6

140+57.15 P.S. Switch Back #2

1.15 Lt

0.20 Lt

0.25 Rt

0.20 Lt

+50				0 02 Rt
146				∠
+50				∠
145				0 06 Rt
+50				0 33 Rt
144+26 70	E.C.	11° 54'		0 62 Rt
144		9° 47.4		0 60 Rt
+78 32	W.E. Pile Trestle-	5° 50.4'	15°48' Curve Arc = 150 63	0 07 Rt
+50		1° 53.4'	S.T. = 76 48 R = 362 92	0 53 Rt
143		0° 00'	143+52 55 P.I. Δ = 23°48' Rt	0 17 Rt
142+76 07	B.C. 15°48' Rt			∠
+50				0 02 Lt
142				0 03 Lt
+50				
141+04 02	B.A. 172°16 Rt.			
140+57 15	P.S. Switch Back			

Station	Description	Deflection	Curve Elements-	Distance to Present ℄
+50				0°3 Rt
+072	W.E. Pile Trestle-			
151				
+53.86	stake-			0 1° Lt
150+53.01	E.C.	16°46'		0 0.8 Lt
+25		14°17'		0 0.6 Lt
150		12°04'	17°44' Curve Δ = 33°32' Lt	0 0.4 Lt
+75		9°51'	S.T. = 97.37 Length Arc = 189.10	0 0.5 Rt
+53.91	E.E. Pile Trestle-	7°38'	R = 323.18 -	0 1° Lt
+50		5°25'		0 2.6 Lt
+25		3°12'	149+94.49 P.O.S.T. Δ = 21°20' (60.12 N. of E.C.)	0 3.2 Lt
149		0°59'	148+97.23 P.O.S.T. Δ = 12°12' (33.32 E. of B.C.)	0 2.5 Lt
+75		0°00'		0 2.2 Lt
148+63.91	B.C. 17°44' Lt			0 1.2 Rt
148				0 0.8 Rt
+50				0 0.4 Rt
147				

155 + 06.93	B.C. 16°52' Lt	0°00'	155 + 65.55 P.O.S.T. Δ = 19°00' (58.62 E. of B.C.)	0.30 Lt
5 + 06.35	Stake			
+ 50				0.05 Rt
154				0.10 Rt
+ 89.84	Stake			
153 + 88.71	E.C.	27° 44'		0.12 Rt
+ 75		26° 02'		0.17 Rt
+ 50		22° 56'		0.10 Rt
+ 25		19° 50		0.10 Rt
+ 14.9	E.E. Pile Trestle			
153		16° 44	24°48' Curve Δ = 55°28' Rt	0.02 Lt
+ 75		13° 38'	S.T. = 121.52 Length Arc = 223.66	0.02 Rt
+ 50		10° 32'	R = 231.14	0.12 Lt
+ 25		7° 26'		0.40 Lt
152		4° 20'	153 + 35.06 P.O.S.T. Δ = 31°58' (55.84 W. of E.C.)	0.37 Lt
+ 75		1° 14'	151 + 99.37 P.O.S.T. Δ = 23°30' (34.32 E. of B.C.)	0.06 Lt
151 + 65.05	B.C. 24°48' Rt	0°00'		0.02 Rt

MAY 1ST 1915

Station	Description	Deflection	Curve Elements -	Distance to Present ℄
+50				$0\frac{13}{}$ Rt
159				$0\frac{11}{}$ Rt
+50				$0\frac{10}{}$ Rt
158				$0\frac{06}{}$ Rt
157+87.57	E.C.	23° 40'		℄
+50		20° 29.9'		$0\frac{05}{}$ Rt
+25		18° 23.4'		$0\frac{16}{}$ Rt
157		16° 16.9'		$0\frac{02}{}$ Lt
+75		14° 10.4'	16° 52' Curve Δ = 47° 20' Lt	$0\frac{33}{}$ Lt
+50		12° 03.9'	S.T. = 148.91 Length Arc = 280.64	$0\frac{03}{}$ Lt
+25		9° 57.4'	R = 339.77	$0\frac{25}{}$ Rt
156		7° 50.9'		$0\frac{38}{}$ Rt
+75		5° 44.4'		$0\frac{14}{}$ Rt
+50		3° 37.9'		$0\frac{14}{}$ Lt
+25		1° 31.4'	157+05.44 P.O.S.T. Δ = 28° 20' (86.97 W. of E.C.)	$0\frac{47}{}$ Lt

+42.20 – E.E. Pile Trestle		3°21'		
163+17.36	C.C. 27°40' Rt	0°00'		
163+17.36	C.C. 27°40' Rt	12° 11.0'		
163		13°31.2'		
+75		11°08.9'		
+50		8°46.0'	R= 300.85	165+31.37 P.O.S.T. Δ=23°00' =(38.43 N. of E.C.)
+29.3	N.E. Trestle (Pile)	6°23.2'	Sub-ST= 81.67	163+80.97 Dutch St. Δ=37°48'
+25		4°00.3'	Δ=30°22'	162+18.63 P.O.S.T. Δ=28°00' =(60.69 E. of B.C.)
162		1°37.4'	Arc=159.40	
+75				
161+57.96	B.C. 19°03' Lt	0°00'	[19°03' Rt]	
+03.61	Stake –			
161+03.11	E.C.	9°45.1'		20°16' Curve – R=282.80
+75		6°54.1'		S.T.=48.59 Length Arc=96.22
+50		4°22.1'		160+54.48 P.I. Δ=19°30' Lt
+25		1°50.1'		
160+06.89	B.C. 20°16' Lt	0°00'		
160				

0.20 Lt
0.25 Lt
0.25 Lt
0.05 Rt
0.07 Rt
0.06 Lt
0.10 Lt
0.05 Lt
0.04 Rt

Station - Description Deflection Curve Elements - Distance to Present ℄ -

- 10-MILE EXTENSION -

- CURVE DATA -

(See p. 39 for Cont.)

April 1915 W.T.R.

Andrews & Fee

Rerun 5-21-15

W.T.R.

Station	Description	Deflection	Curve Elements	Distance to Present ℄
+71 01	Stake -			℄
165+70 49	E.C.	16°46 15'		0 25 Rt
+50		14°40 0'		0 Rt
+30 7	E.E. Pile Trestle -	12°05 8'		℄
+25				
165		9°31 15'		℄
+75	#3 ~	6°57 3'		0 25 Lt
+50		4°23 10'		0 22 Lt
+25		1°48 8'		℄
+22	W.E. Trestle (Pile)			℄
164+07 36	C.C. 20°34' Rt	0°00'		℄
164+07 36	C.C. 20°34' Rt	12° 27'		℄
+92 36		10°22 15		0 05 Lt
+67 36		6°55 0		℄
+42 36		3°27 15		0 05 Rt
+31 50	E.E. Pile Trestle			℄
163+17 36	C.C. 27°40' Rt	0°00'		℄

[20°34' Rt R=277.68 Δ=33°33' Sub. T.=83.99 Arc=163.12]

[27°40' Rt R=207.32 Δ=24°18' Arc=90.00 Sub. T.=45.72]

Δ = 88°48'

S.T. West = 261.24

East = 255.00

		Δ = 17°30' ✓
174+65	B.C. 10° Lt.	
173+65	E.C.	Δ = 44°30' ✓
171+67.50	B.C. 20° Lt	
170+65	E.C.	Δ = ?
170+50	C.C. 3°20' Rt	Δ = 2°30'
170+25	C.C. 10° Rt	Δ = ?
170+00	C.C. 13°20' Rt	Δ = 43°45'
168+25	C.C. 25° Rt	Δ = 5°37½'
168+00	C.C. 22°30' Rt	Δ = 24°48'
166+76	B.C. 20° Rt	
165+96	E.C.	Δ = 5°00' ✓
165+71	C.C. 20° Lt	Δ = 67°30'
163+01	B.C. 25° Lt	

Notes Received from Ten Mile Extension Party in advance of Curves Checked - M.T.R.

Equation = 157+84 = Harpe-Station
= 161+03 = Correct Station -

Station	Description	Central Angle	Remarks - (35)
186+90	E.C.		
185+90	B.C. 20°Lt	Δ = 20°00' ✓	
185+15	E.C.		
184+65	B.C. 20°Lt	Δ = 10°00' ✓	
183+90	E.C.		
183+40	B.C. 20°Lt	Δ = 10°00' ✓	
182+65	E.C.		
181+15	B.C. 20°Lt	Δ = 30°00' ✓	
180+40	E.C.		
178+40	B.C. 10°Rt	Δ = 20°00' ✓	
176+40	E.C.		Ballasted to 177+40
		Δ = 17°30' ✓	

John Harpe - 5-1-15

200+94.3 B.C. 30°Lt Δ = 75°24'?

198+57.2 E.C.
196+87.8 B.C. 25°Lt Δ = 42°52' ✓

195+63.45 E.C.
193+88.65 B.C. 25°Rt Δ = 68°45'? ✓

191+89.2 E.C.
191+39.2 B.C. 20°Rt Δ = 10°00' ✓

189+91.50 E.C.
189+41.50 B.C. 10°Lt Δ = 5°00' ✓

188+55 E.C.
187+55 B.C. 20°Rt Δ = 20°00' ✓

Ten Mile Extension Data -
In Advance of Curves Checked
5-1-15 - H.T.R.

Notes Read From John Harpe.

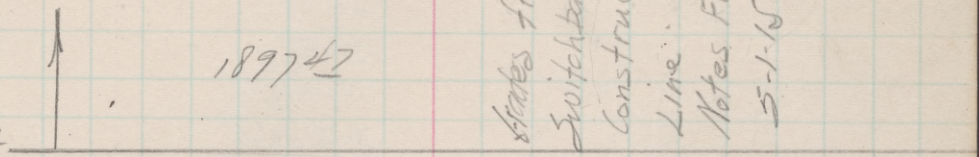
Grade Complete to
E.S. 202+25

Track laid to this Point -

Station	Description	Elevation
147+25	E.C.	1863 22
145+40	B.C.	1870 82
141+00	E.C.	1888 22
139+50	B.C.	1892 97
138+20	P.F. #9	
138+00		1897 47

States from Switchback #2 to End of Constructed & Located Line.

Notes From John Hairs 5-1-15 W.T.R.



From Switchback East

Station	Description	Central Angle		Remarks
212+95.2	E.C.			
211+48.4	B.C. 30°L	Δ=44°10'	191.53	
208+45.6	E.C.			
207+00.6	B.C. 20°R	Δ=29°00'	286.64	
203+39.3	E.C.			
		Δ=73°24'?		Spade Complete to

180+65	-4.0%
180+40	-3.85%
178+40	-3.85%
178+15	-4.0%
177+65	-4.3%
176+40	-4.0%
175+70	-3.50%
173+65	
164+00	
162+00	
160+00	
157+00	
154+50	
152+00	
150+50	P.O.T.
148+46	B.C.

1739.	067
1740	064
1747	764
1748	727
1750	727
1755	977
1758	027
1765	912
1799	11
1806	24
1813	24
1824	14
1834	14
1854	14
1850	18
1858	18

- 10-Mile Extension Data
Grades from Switchback
To End of Constructed &
Located Line.
Notes from John Harpe -
5-1-15 - N.T.R.

Station	Gradient	Elevation
200+89.3	-3.325	1667.814
200+75	-3.5	1668.644
200+15	-4.0%	1670.394
198+90	-3.325	1675.269
196+90	-3.325	1681.909
196+65	-3.50%	1682.739
195+90	-3.50%	1685.364
195+65	-3.50%	1686.23
192+65	-3.325%	1696.199
192+40	-3.5%	1696.929
185+90	-3.5%	1719.864
185+65	-4.0%	1720.564
184+65	-4.0%	1724.564
184+40	-3.50%	1725.564
181+65	-4.0%	1735.189
180+65	-4.0%	1739.564

Stationing	Gradient
213+17 2/3	-3%
211+39 3/3	-3%
210+89 3/3	-3 5/8%
210+64 3/3	-4 2/8%
208+89 3/3	-4 2/8%
208+64 3/3	-4 0/8%
208+39 9/3	-3 5/8%
206+89 3/3	-3 5/8%
206+64 3/3	-4 0/8%
204+14 3/3	-4 0/8%
203+89 3/3	-3 5/8%
203+64 3/3	-3 0/8%
200+94 3/3	-3 32 5/8%
200+89 3/3	

Elevation
1624 389
1629 789
1631 414
1632 289
1639 639
1640 689
1641 689
1646 939
1647 689
1657 689
1658 689
1659 564
1667 664

— 10-Mile Extension Data —
Grades From Switchback to End
Of Constructed & Located Line
Notes From John Harpe
5-1-15 W.T.R.

+15.41	Stake			℄
169+14.46	E.C.	36°24'		℄
169		34°36.4'		0°07 Lt
+75		31°30.4		0°61 Rt
+50		28°24.4	24°48' Curve Lt Δ = 72°48' Lt	0°55 Rt
+25		25°18.4'	S.T. = 170.42 Arc = 293.55	0°03 Rt
168		22°12.4'	R = 231.55	0°07 Lt
+75		19°06.4'		℄
+50		16°00.4'		℄
+25		12°54.4'		0°11 Lt
167		9°48.4'	168+68.66 P.O.S.T. Δ = 31°08' Lt (53.12 N. of E.C.)	0°02 Rt
+75		6°42.4'	167+00.10 P.O.S.T. Δ = 41°40' Lt (79.19 E. of B.C.)	0°10 Lt
+50		3°36.4'		0°11 Lt
166+20.91	B.C. 24°48' Lt	0°00'		0°12 Lt

May 22-N -

See page 34.

Station	Description	Deflection	Curve Elements	Dist. to Pres. ℄
+03[7]	E.E. Pile Trestle			
172		8°35[2]		0 02 Rt
+75		27[2]'		0 08 Rt
+50		2°20[2]'	Δ = 84°44'	0 13 Rt
171 +31 31	C.C. 25°00' Rt	0°00'	S.T. West = 236 13	0 03 Lt
171 +31 31	C.C. 25°00' Rt	13°30'	" East = 220 58	0 03 Lt
+25		12°52'		0 05 Lt
+22[7]	W.E. Pile Trestle			
171		10°22'	Calculated	0 20 Lt
+75		7°52'		0 10 Lt
+50		27 22'	173 +07 81 P.O.S.T. Δ = 27°14' Rt (69 90 W. of E.C.)	0 02 Lt
170 +25		2°52'	172 +19 32 P.O.S.T. Δ = 27°00' Rt	0 10 Lt
169+96 31	B.C. 20°00' Rt	0°00'	170+70 72 P.O.S.T. Δ = 30°30' Rt (74 41 E. of B.C.) ℄	
		May 24-15	Calculated → (74 35 Δ)	
+50				℄

20°00' Curve – Δ = 27°00'
S.T. = 68 80 Arc = 135°00
R = 286 57

25°00' Curve
Δ = 25°00'
Arc = 100 00
R = 229 30
S.T. = 50 83

175		1°12 5/5	176+75 3/3 P.O.S.T.	Δ = 16°26' (40 6/4 W. of E.C.)	0 32/32 Lt
174+87 22/22	B.C. 20°00' Lt	0°00'	175+60 24/24 P.O.S.T.	Δ = 28°30' (72 32/32 E. of B.C.)	0 17/17 Lt
+50					0 07/07 Rt
174					0 15/15 Rt
173+67 88/88	E.C.	16°22'			0 18/18 Rt
+50		14°13 3/3			0 18/18 Rt
+25		11°13 5/5			0 32/32 Lt
173		8°13 8/8			0 58/58 Lt
+75		5°14°			0 22/22 Lt
+50		2°14 13/13			0 06/06 Lt
172+31 31/31	C.C. 23°58' Rt	0°00'			0 06/06 Lt
172+31 31/31	C.C.	12°30'			0 06/06 Lt
2+25		11°42 7/7			0 01/01 Lt

23°58' to Rt
R = 239.17
Arc = 136.57
Δ = 32°44'
S.T. = 70.24

Station	Description	Deflection	Curve Elements	Dist. to Pres. ℄
		↑		
+50				0^{07} Rt
		May 25 - 15		
$177+12^{59}$	E.C.	22°28°'		0^{21} Lt
177		$21°12^{55}$'		0^{31} Lt
+75		18°42 55'		0^{45} Lt
+50		16°12 55'	20°00' to Lt Δ = 44°56' Lt	0^{13} Lt
$+40^{72}$	W.E. Pile Trestle		S.T. = 118^{50} Arc = 224^{67}	
+25		13°42 55'	R = 286^{57}	0^{12} Rt
176		11°12 55'		0^{08} Rt
+75		8°42 55'		0^{45} Rt
+50		6°12 55'		0^{06} Lt
+25		3°42 55'		0^{31} Lt

			Δ = 20°44' Rt Arc = 210.85	
183		6°59.5'	S.T. = 106.62	0.15 Rt
+50		4°32.0'		0.14 Lt
182		2°04.5'	182+91.62 P.O.S.T. Δ = 10°14'	0.09 Rt
181+57.81	B.C. 9°50' Rt	0°00'	182+37.04 P.O.S.T. Δ = 10°30'	0.04 Rt
+50				0.04 Rt
181				0.04 Rt
+50				0.05 Rt
180				℄
179+62.13	E.C.	8°29.0'		0.04 Lt
+50		7°52.6'	10°00' Curve Lt R = 573.14	0.07 Lt
+42.8	E.E. Pile Trestle		S.T. = 85.48 Arc = 169.67	
179		5°22.6'	Δ = 16°58'	0.02 Lt
+50		2°52.6'		0.07 Rt
178		0°22.6'	179+28.37 P.O.S.T. Δ = 9°18' (33.81 N. of E.C.)	℄
177+92.46	B.C. 10° Lt	0°00'	178+15.35 P.O.S.T. Δ = 7°40' (22.89 E. of B.C.)	0.02 Rt

Station	Description	Deflection	Curve Elements	Dist. to. Pros.	℄
+50					
187+08.03	E.C.	5°00'	20°00' Curve R=286.57		0.04 Lt
+83.03		2°30'	S.T. = 25°07' Arc = 50.00		0.20 Lt
186+58.03	B.C. 20°00' Lt	0°00'	186+83 P.I. Δ = 10°00'		℄
+50					℄
186					℄
185+82.77	E.C.	15°03'			0.03 Lt
+50		11°42.5'			0.03 Lt
+25		9°09.5'	20°24' Curve Lt. Arc = 147.55		℄
185		6°36.5'	S.T. = 73.54 R = 280.95		0.05 Lt
+75		4°03.5'			0.13 Lt
+50		1°30.5'			0.20 Lt
184+35.22	B.C. 20°24' Lt	0°00'	185+10.76 P.I. Δ = 30°06'		0.09 Lt
184					0.05 Rt.
183+68.66	E.C.	10°22.0'			0.10 Rt
+50		9°27.0'	9°50' Curve Rt R = 582.85		0.24 Rt
			Δ = 20°44' Rt Arc = 210.83		

+25		5°13 3/4'	19°12' Curve Rt R=298.50	0.01 Lt.
191		2°49 3/4'	Arc=107.29 S.T.=54.25	0.17 Rt
190+70.61	B.C. 19°12' Rt	0°00'	191+24.86 P.I. Δ=20°36' Rt	0.17 Rt
+50				℄
190+13.90	E.C.	10°05'		0.20 Lt
190		8°44.9'		0.34 Lt
+75		6°20.9'		0.02 Lt
+50		3°56.9'	19°12' Curve Lt R=298.50	0.10 Rt
+25		1°32.9'	Arc=105.03 S.T.=53.08	℄
189+08.87	B.C. 19°12' Lt	0°00'	189+61.95 P.I. Δ=20°10' Lt	0.04 Lt
+08.25	Stake - P.O.T.			℄
189				℄
+50				℄
188+35.66	E.C.	5°00'	20° Curve Lt R=286.57	0.08 Lt
8+10.66		2°30'	Arc=50.00 S.T.=25.07	0.03 Lt
187+85.66	B.C. 20°00'	0°00'	188+10.73 P.I. Δ=10°00'	0.21 Rt
+85.33	Stake P.O.T.			

Station	Description	Deflection	Curve Elements	Dist. to Pres. ℄
+50				0.05 Rt
195+13.65	E.C.	4°53'	17°04' Curve Rt. R=335.79	℄
+85.03		2°26.5'	S.T.=28.69 Arc=57.23	℄
194+56.42	B.C. 17°04'	0°00'	194+85.11 Δ=9°46' Rt.	0.03 Rt
+50				0.04 Rt
194				0.10 Rt
+50				0.25 Rt
193+12.80	E.C.	2°33'	8°00' Curve Lt. R=716.34	
+80.92		1°16.5'	R=31.91 Arc=63.25	℄
192+49.05	B.C. 8°00' Lt	0°00'	192+80.96 P.I. Δ=5°06'	℄
.192				0.15 Lt
				0.10 Rt
			May-26-1915	
+78.72	Stake P.O.T.			
191+77.90	E.C.	10°18.0'		0.08 Rt
+50		7°37.3'		0.02 Lt

+50				0 15 Lt
199				0 02 Rt
+83 81	Stake P.O.T.			
198+83 11	E.C.	34°24°		0 14 Rt
+75		33°23 2'		0 17 Rt
+50		30°17 2'		0 06 Rt
+25		27°11 2'		0 03 Lt
198		24°05 2'		0 02 Lt
+75		20°59 2'		0 03 Lt
+50		17°53 2'		0 04 Lt
+25		14°47 2'		0 10 Lt
197		11°41 2'	24°48' Curve Rt Δ=68°48'	0 35 Lt
+75		8°35 2'	R=231 15 S.T.=158 27 Arc=277 42	0 34 Lt
+50		5°29 2'		℄
+25		2°23 2'	198+30 15 P.O.S.T. Δ=36°18' Rt (53 38 W. of E.C.)	0 40 Rt
196+05 75	B.C. 24°48' Rt	0°00	196+48 45 P.O.S.T. Δ=32°30' Rt (42 70 E. of B.C.)	0 40 Rt

200+34.24	P.O.T. Harpe-	= Equation	Difference = 319.40	See Pages 44 & 36
203+53.64	℄ W.T.R.	= 0°01.3' Rt to Coincide With Harpe's Forward Tangent		
203+31.4	End of Steel-	65# Maryland - 24" Angles 4 Bolts 4"x3/4" - Hex. Nuts & Lox.		
203				
+50				
202				
201+78.93	E.C.	21°23'		
+50		17°46.0'		0.16 Lt
+25		14°38.5' ✓		0.05 Lt
201		11°31.0'	25°00' Curve Lt Δ = 42°46'	0.04 Rt
+75		8°23.5'	S.T. = 89.78' Arc = 171.06 R = 229.30	0.12 Rt
+50		5°16.0'		0.10 Rt
+25		2°08.5' ✓	201+45.90 P.O.S.T. Δ = 16°16' Lt (35.78 W. of E.C.)	0.05 Rt
200+07.87	B.C. 25° Lt	0°00'	200+63.75 P.O.S.T. Δ = 26°30' Lt (55.88 E. of B.C.)	0.03 Rt
200				0.05 Rt

-10-MILE EXTENSION-

Check of Alignment Notes.

5-26-15 - W.T.R.

Andrews & Fee -

See Pages #36 & #43

Difference Bet. Length Harpe's Line from P.F.#9 Switchback #2 and W.T.Richards Line = 3.00 Feet.

200+34.24 P.O.T. Harpe - Difference 319.40

203+53.64 P.T. ∆ W.T.R. 0°01.3' Rt to Coincide With Harpe's Forward Tangent

141+36.40 P.F.#9 W.T.R. - = Equation Difference = 316.40

138+20 P.F.#9 - Harpe =

Length - Harpe's Line 6214.24 Feet
" W.T.R's " 6217.24 "
} Difference = 3.00 Feet.

+50 +32
84 3+82
+50 4+32
7285 +82
+50 5+32

5.0 98.9
5.1 98.8
5.1 98.8
5.0 98.9
4.9 99.0

- WILLITS -
Profile Over Present Main Line Base of Rail -
Bet. Stations 7277 & 7285
W.T.R.
Andrews & Fee
5-21-15

Base of Rail
Elev.
100.00

2 x 2 Stake S.W. Cor. Depot

Elevs Along Present M.L.

	4.53	104.53		
7277 + ~~50~~ + 32'			5.2	99.3
~~8~~ 7 + 82'			5.3	99.2
~~+50~~ + 32'			5.4	99.1
~~9~~ 8 + 82'			5.4	99.1
~~+50~~ + 32'			5.4	99.1
~~80~~ 9 + 82'			5.5	99.0
~~+50~~ + 32'			5.5	99.0
~~81~~ 0 + 82'			5.6	98.9
~~+50~~ + 32'			5.6	98.9 ✓
~~82~~ 1 + 82'			5.7	98.8 ✓
0	4.64	103.90	5.27	99.26
~~+50~~ + 32'			5.0	98.9 ✓
~~83~~ 2 + 82'			5.0	98.9 ✓

7+80		
7+79+80	Prop. Line	
7+79+38	℄ Street	Commercial St.
7+79+15	Gutter Line	
7+79		
7+78+50		
7+78+10		
7+77+65		

Note - All Measurements Taken From Present Main Line & Base of Rail.

Gutter @ 160

Manhole 1+3

1283+50

3+

1283+11

1283

+50

1282

+50

1281

1280+50

Tel. Pole 79 Lt

Manhole 132 Lt ℄ Street

Stationing as per
M.W. N-111

-MILLITS-
X-Sections Over Site
-Of Proposed New Depot-
5-21-15
M.T.R. Andrews & Fee

98.7 98.4 98.1 98.2 97.7 98.0 98.9 98.9
-0.2 -0.5 -0.8 -0.9 -1.2 -0.9 0 0 98.9
175 150 100 80 50 31 27 0

99.2 99.8 99.5 98.4 98.4 99.2 98.8 98.8
+0.4 +1.0 +0.7 -0.4 +0.4 +0.4 0 0 98.8
174 153 150 100 86 50 26 0

98.8 98.5 98.9 98.8 98.6 98.5 98.5 98.7 98.8
0 -0.3 +0.1 0 -0.2 -0.3 -0.3 -0.1 0 98.8
175 160 150 130 100 90 50 26 0

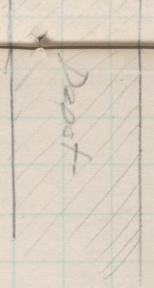
99.6 99.2 99.0 98.8 98.7 98.6 99.1 99.1 98.9
+0.7 +0.3 +0.1 -0.1 -0.2 -0.3 +0.2 +0.2 0 98.9
175 150 130 100 79 50 28 9 0

99.7 99.4 98.6 99.0 98.9 99.3 98.8
+0.8 +0.5 -0.3 +0.1 0 +0.4 0 98.9
160 135 114 87 37 9 0

99.6 100.2 98.9 99.9 99.6 99.5 99.3
+0.7 +1.2 0 +1.0 +0.7 +0.6 +0.7 98.9
137 121 71 25 9 0

99.4 99.1 99.4 100.2 99.5 99.6 99.3
+0.6 +0.3 +0.6 +1.3 +0.7 +0.8 +0.4 98.9
160 121 96 71 25 9 0

99.7 99.8 99.8 100.4 99.5 99.4 99.3
+0.8 +0.9 +0.9 +1.5 +0.6 +0.5 +0.4 98.9



- WILLITS -

X-Sections Over Site of
Proposed New Depot.
5-21-15
W.T.R.

5 +50 +32'

7285 4+82'

+94 6 Tel. Pole - 85.5 Lt

76.7

+50

4 +32'

7284 3+82'

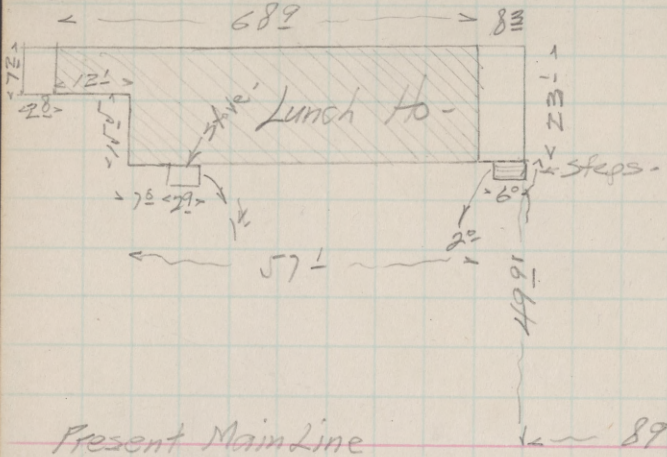
$\frac{-0^{2}}{175}$ $\frac{-0^{4}}{150}$ $\frac{-0^{9}}{100}$ $\frac{-1^{2}}{71}$ $\frac{-0^{6}}{49}$ $\frac{-0^{2}}{45}$ $\frac{0}{0}$

$\frac{-0^{4}}{177}$ $\frac{-0^{5}}{150}$ $\frac{-0^{7}}{100}$ $\frac{-0^{8}}{43}$ $\frac{-0^{1}}{35}$ $\frac{0}{0}$

85.5

$\frac{-0^{1}}{167}$ $\frac{-0^{5}}{150}$ $\frac{-0^{7}}{100}$ $\frac{-1^{0}}{50}$ $\frac{-1^{8}}{37}$ $\frac{0}{31}$ $\frac{0}{0}$

$\frac{-0^{1}}{165}$ $\frac{-0^{9}}{147}$ $\frac{-1^{0}}{100}$ $\frac{-1^{4}}{50}$ $\frac{-1^{1}}{33}$ $\frac{+0^{1}}{29}$ $\frac{0}{0}$



Present Main Line

89°

← To San Francisco

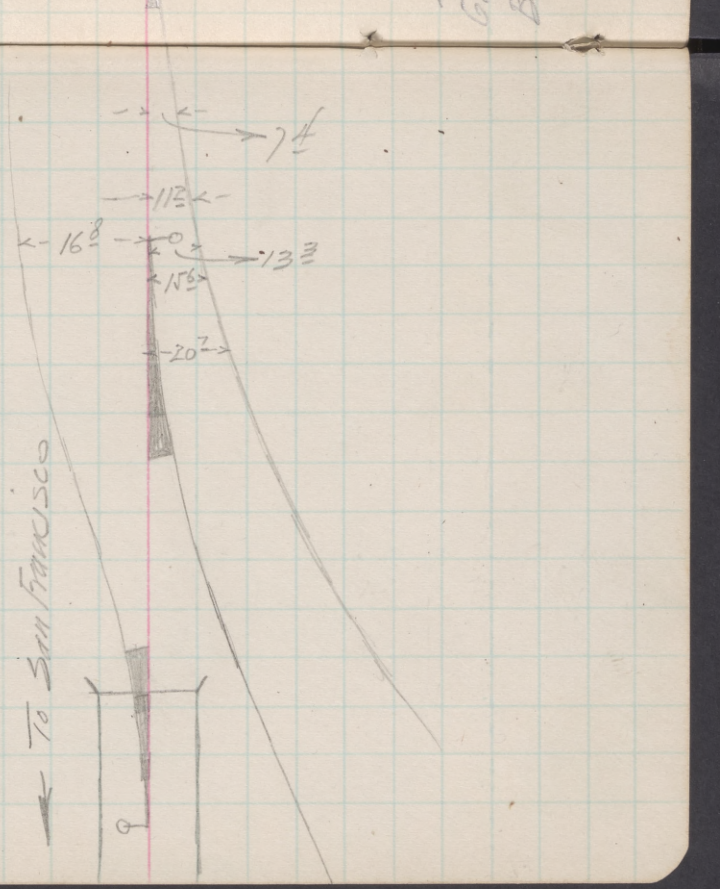
-Willits-

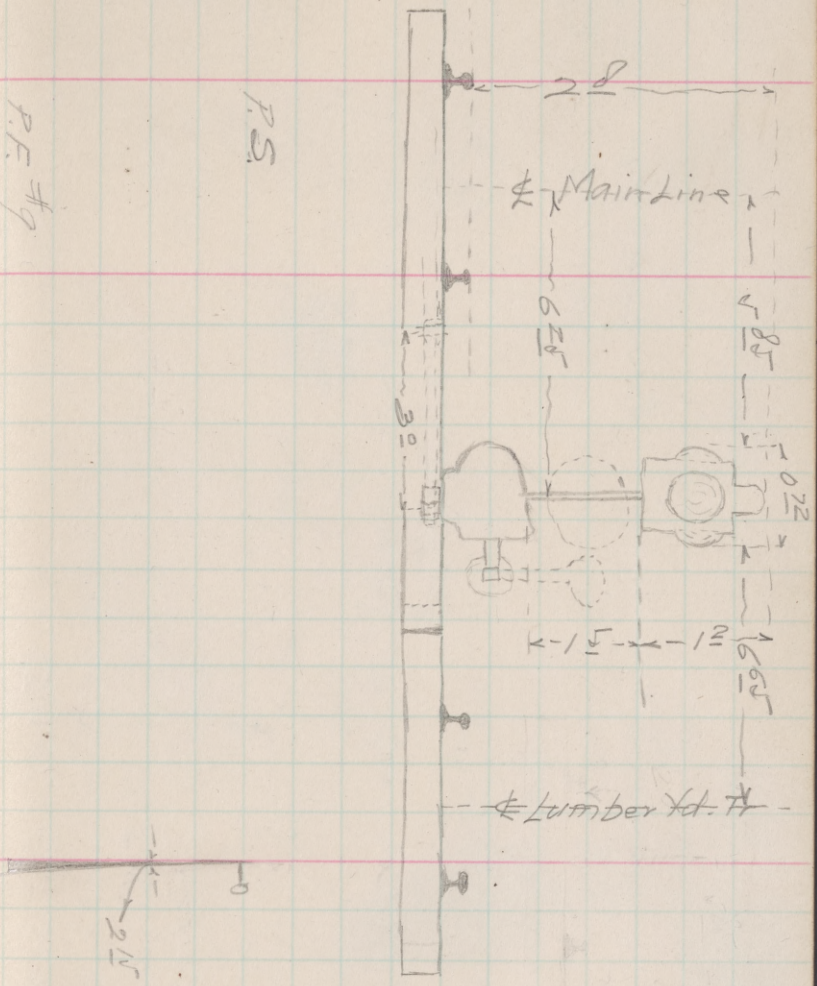
Location of Lunch House-

5-31-15

W. T. R.

2+00	
1+75	
1+62.8	P.S.
1+50	
1+00	
0+81.9	P.F. #9
0+51.6	P.F. #9
0+00	E.E. Trestle #137 N
0-29	P.S.





- WILLITS -

Location & Detail Sketch of Ground Throw Switch Stand Where Brakeman Gilman Was Injured 5-19-

N. T. C. 5-20-15

- Andrews & Fee -

(48)

48+20 End of Steel -

- SWAMP SPUR -
Check of Rail, V-28-15
W.T.R.
Andrews & Fee -

40+57½ Hayes Derail RH Hd. 2 Bolts to Joint from this Point On -
38+05 End of 56# Barrow
37+13± Beg. of 56# Barrow
31+69 Old Style Derail (Locomotive Appliance Co -)
25+00 Tie Plates End At This Point
0+80± P.F. #9

65# Maryland ~~O.K~~ 24" Angles
4 Bolts. 3½ x 4" Hex Nuts Hex

0+00 = P.S. = Beginning of Spur.
545+61½ P.S. = M.L. Stationing

11+57.30	E.C.	[14°00' Curve S.T. = 95.00 / Arc = 188.61 Δ = 35°16' R = 301.64]
9+75.90 N.T.R. = (9+69.90 Kwast)		
9+71.69	B.C. 19° Lt	
9+10.00	E.C.	[9°30' Curve S.T. = 72.65 / Arc = 144.56 Δ = 13°44' R = 603.28]
7+55.43	B.C. 9°30' Rt	
6+94.72	E.C.	[3°00' Curve S.T. = 48.34 / Arc = 96.67 Δ = 2°54' R = 1909.91]
5+98.05	B.C. 3°00' Rt	
3+09.36	E.C.	[23°24' Curve Sub S.T. = 51.33 / Arc = 101.14 Δ = 23°40' R = 244.96]
2+08.22	C.C. 23°24' Rt	[22°44' Curve Sub. S.T. = 58.79 / Arc = 115.47 Δ = 26°15' R = 252.14]
0+92.75	B.C. 22°44' Rt	
0+78.80	P.F. #9	
0+35.84	ΔPt 5°12' Rt	
0+00	P.S.	

"F X 3"

Plotted 7/19/15 Fee.

- CRAFT SPUR -

Alignment of Existing Track -

Run 5-29-15 W.T.R.

Andrews + Fee -

24+94^{1}	End of Rail & Grade	
24+81^{60}	E.C.	24°00' Curve S.T. = 54^{04} Arc = 106^{25} Δ = 25°30' R = 238^{84}
23+75^{35}	B.C. 24°00' Rt	
22+34^{8}	W.T.R. = (22+23^{5} Kwast)	
22+35^{16}	E.C.	[20°00' Curve S.T. = 263^{05} Arc = 425^{50} Δ = 85°06' R = 286^{57}]
18+09^{76}	B.C. 20°00' Lt	
16+97^{36}	E.C.	[20°00' Curve S.T. = 110^{48} Arc = 210^{83} Δ = 42°10' R = 286^{57}]
14+86^{53}	B.C. 20°00' Rt	
13+43^{19}	E.C.	[15°36' Curve S.T. = 77^{08} Arc = 151^{92} Δ = 23°42' R = 367^{35}]
11+91^{27}	B.C. 15°36' Rt	
11+57^{30}	E.C.	[19°00' Curve S.T. = 95^{88} Arc = 185^{61} Δ = 35°16' R = 301^{64}]
9+75^{90}	W.T.R. = (9+69^{0} Kwast)	

65# Maryland Steel –
24" Angles. 4 Bolts.
Hex Nuts Lox –

+75 35	B.C. Rt.	4.3	57 4		57 14
24		4.1	57 0	3 [illegible]	57 [illegible]
+50		3.1	58 6	2 36	2259 38
+ 81 60	E.C.	1.7	60 0		
24 + 94 7		0.7	61 0		
B.M. -		5.39		2256 35	

On 8" Fir Stump 14' Lt. of Sta. 23 + 32'

- CRAFT - SPUR -

Profile & Grades 5-31-15

W.T.R.

- Andrews & Fee -

Station	Description	+	H.I.	−	Elev.	T.P.s	Remarks	
			2246 97					
19				3.6	43 4			
+50				3.6	43 4	H.I.	7 37	2243 36
20				3.8	43 2	0 37 2250 73	6 37	2244 36
+50				2.8	44 2		4 87	45 86
⊙		10 65	2255 14	2.48		2244 49	Track Spike at 20+75	
21				10 0	45 1		3 37	47 36
+50				7 7	47 4		1 87	48 86
22				5 3	49 8	H.I. = 2261 74	11 38	50 36
+35 16	E.C			3 4	51 7			51 41
+50				2 8	52 3		9 74	52 00
23				0 2	54 9		7 74	54 00
⊙		7.15	2261 74	0 55		2254 59	Track Spike at 23+00	
+50				4 6	57 0		5 74	56 00
+75 35	B.C. Rt.			4 3	57 4			57 14
24				4.1	57 0		3 [illegible]	57 [illegible]

+3%

+4%

+43 19	E.C.			8.6	28 7	
+50				8.5	28 8	
14				7.6	29 7	
+50				6.7	30 6	
+86 53	B.C. Rt			6.1	31 5	
15				5.9	31 4	
+50				4.5	32 8	
16				3.4	33 9	
+50				2.1	35 2	
+97 36	E.C.			0.4	36 9	
17				0.3	37 0	
0		10 35	2246 97	0 64		2236 67 Track Spike at 17+00
+50				1.3	38 7	
18				6.7	40 3	
+09 76	B.C. Lt			6.4	40 6	
+50				5.0	42 0	

Station	Description	+	H.I.	−	Elevations T.P.s.	Remarks - (5)
			2226 26			
9+00	E.C.			2.0	24 3	
+50				1.2	25 1	
9+71 69	B.C. Lt			0.8	25 5	
10				0.2	26 1	
⊙		5.91	2231 69	0.48		2225.78 Track Spike at Sta 10+00
+50				4.5	27 2	
11				4.1	27 6	
+50				3.9	27 8	
+57 30	E.C.			3.9	27 8	
11+91 27	B.C. Rt			3.9	27 8	
12				3.9	27 8	
+50				4.0	27 7	
13				3.7	28 0	
⊙		9.53	2237 26	3.96		2227 73 Track Spike at 13+00

+10 +10

0
+50
4
+50
5
+50.
+98 05 B.C. Rt
6
+50
0 9.65 2226 26
+94 72 E.C.
7
+50
+55 43 B.C. Rt
8
+50

9.97 2217 07

0.40 2207 10 Track Spike Sta 3+40
9.4 2207 2
7.9 2209 2
6.3 10 8
4.9 12 2
3.4 13 1
1.8 15 3
1.8 15 3
0.2 16 9 Track Spike Sta 6+50
0.46 2216 61
7.9 18 4
7.7 18 6
5.9 20 4
5.6 20 ?
4.3 22 0
3.1 23 2

- CRAFT SPUR -

Top of Rail Levels - Run 5-31-15

W.T.R. { W. J. Andrews
V. D. Fee -

Plotted 7/19/15 Fee

(56)

Station -	Description	+	H.I.	-	Elevations	T.P.s	Remarks
B.M.						2200.00	Ass. Ele. On 14" Pine 35 Lt of Sta 1+62 -
		7.50	2207.50				
0+00	P.S.			7.0	2200.5	(2206.62)	
+78.8	P.F.			7.0	2200.5		
+92.75	B.C. Rt			6.9	2200.6		
1				6.8	2200.7		2200.20
+50				5.7	2201.8	4.53	2.09
2				4.3	2203.2	3.14 +2.78	3.48
+08.22	C.C.			4.0	2203.5		
2+10		+10				2.86	2203.76
+50				2.8	2204.7	1.72 +2.84	4.90
3				1.2	2206.3		6.32
+09.36	E.C.			0.9	2206.6		2206.60
+10		+10					

213 + 84 3
214 + 09 3
214 + 57 3
216 + 37 2

56 19
56 31
63 69
58 29

- 10-MILE EXTENSION -
- Top of Rail Levels -
- Between Switchback #1 & End of Track.
5-27-15
W.T.R / W.J. Andrews
D.J. Fee -

199+85
200+10
202+10
203+25
203+95
204+093
204+143
206+843
207+093
207+343
209+843
210+093
211+599
211+843
212+093

616 64
615 81
609 17
604 29
602 54
601 21
601 56
593 46
592 59
591 59
581 59
580 84
575 59
574 59
573 54

+50				4 0	74 0	
+68 66	E.C.	+70	Grade Pt	4 2	74 1	675 25
4				5 8	73 0	
+35 22	B.C. Lt	+30	Grade Pt	7 3	71 5	672 93
+50				7 9	70 9	
5				9 9	68 9	
+50				11 7	67 1	
B.M.				11 295		667 540 Spike in 10" Oak
+	+80		Grade Pt.			Rt of Sta
	6+60		Grade Pt.			667 86
	7+10		" "			664 50
187+60				659 46		
187+85				658 46		
188+85				654 46		
189+10				653 76		
195+60	(195+60)			630 83		
195+85				630 10		
198+85				620 13		
199+10				619 27		

4 20

3 38

4 20

From Notes at John Harpe
See Pages 35-38

700270

178				4 3	96 0		
+50				6 2	94 1		
9				8 0	92 3		
+42	E.E. Trestle			9 3	91 0		
+50				9 5	90 8		
+62 13	E.C.	+60	Grade Pt	11 1	89 2	691 83	X
180							
⊙		0 185	689 075	11 380		688 890	Track Spike Sta 180+00
+50				2 3	86 8		
1				4 7	84 4		
+50				6 9	82 2		
+57 81	B.C. Rt	+60	Grade Pt	7 2	81 9	683 43	X
2				8 6	80 5		
+50				10 6	78 5		
⊙		0 460	678 835	10 700		678 375	Track Spike Sta 182+50
3				2 2	76 6		
+50				4 0	74 8		
+68 66	E.C.	+70	Grade Pt	4 2	74 1	675 [illegible]	X

3 80

4 20

3 80

3

			7 6	12 5		
+50			9 2	10 2		
+67 92	E.C.	+70 Grade Pt.	10 6	709 5	714 17	
4						
⊙		0 590 709 805	10 895		709 215	Track Spike 174+00
+50			2 0	707 8		
B.M.			3 140		706 665	Nail in Pine Stump 15' Rt of Sta 174+72
						709 13
+87 92	B.C. Lt	+90 Grade Pt	3 2	706 6		Harpes Elev. = 1772.725
5			3 6	706 2		W.T.R.'s " = 706.665
						Difference = 1066.060
+50			5 0	704 8		
6			6 5	703 3		
+40	W.E. Trestle		8 0	701 8		
+50			8 2	701 6		
7			9 1	700 1		
⊙		0 315 700 270	9 850		699 955	Track Spike 177+00
+12 54	E.C.	+10 Grade Pt	0 5	699 8	701 65	
+50			2 2	98 1		
+92 46	B.C. Lt	+90 Grade Pt	4 0	96 3	698 29	

3 34

4 20

3 40

4 20

740.870

⊙		1.190	730.980	11.080		729.790	Track Spike 168+00	
168+50				2.8	28.2			-3.20
9				4.0	27.0			
+14.46	E.C.	+10	Grade Pt	4.5	25.5	730.11		X
+50				5.7	24.3			2.0
+96.30	B.C. Rt			7.4	22.6			
170		+00	Grade Pt	7.5	22.5	726.33		X
+50				9.3	21.7			3.40
1				11.2	19.8			
⊙		0.430	720.110	11.300		719.680	Track Spike 171+00	
+23 W.E. Trestle +31.31 C.C.		+30	Grade Pt	1.3	18.8	721.81		X
+50				2.3	17.8			
2				4.3	15.8			3.20
+04	E.E. Trestle			4.4	15.7			
+31.31		+30	Grade Pt	6.0	14.1	718.71		X
+50								
3				7.6	12.5			3.24
				9.2	10.9			

+50				2 2	49 2		
3							
+17 36	C.C.	+20	Grade Pf	4 4	46 9	749 69	X
+30	E.E. Trestle			5 6	45 7		
+50				6 0	45 3		
4							
+07 36	C.C.	+10	Grade Pf	7 3	44 0	746 90	X
+21	W.E. Trestle			8 1	43 2		
+50				9 1	42 2		
5				10 9	40 4		
⊙			0 630 740 870	11 035		740 240	Track Spike 165+00
+32	E.E. Trestle			1 6	39 3		
+50				2 1	38 8		
+70 49	E.C.	+70	Grade Pf	2 7	38 2	741 49	X
6				3 6	37 3		
+20 91	B.C. Lt	+20	Grade Pf	4 6	36 3	739 39	X
+50				5 8	35 1		
7				7 4	33 5		
+50				9 2	31 7		
8				11 0	29 9		

X 3 10 — X 3 38 — X 4 20 — X 3 20

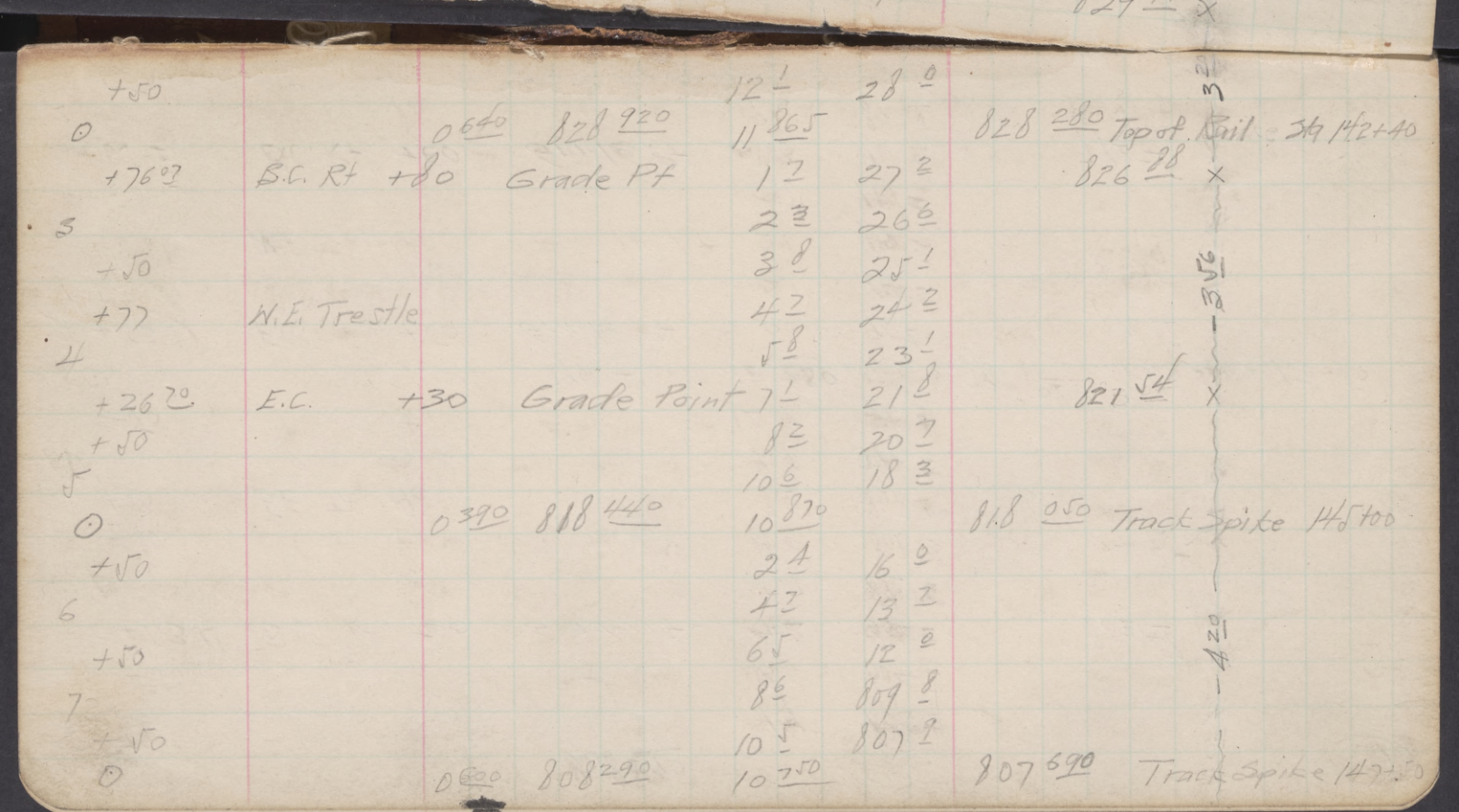
			773 810				
159				11 4	62 4		
⊙		0 170	762 210	11 770		762 040	Track Spike 159+00
+50				1 7	60 5		
16⊕				3 8	58 4		
+06 89	B.C. Lt +10	Grade Pt		4 1	58 1	760 75	
+50				5 6	56 6		
1				7 4	54 8		
+03 11	E.C. +00	Grade Pt		7 5	54 7	757 71	
B.M.				4 920		757 290	Nail In Pine Stump 8' Rt
							Sta - 161+00
+50				9 2	53 0		
+57 96	B.C. Rt +60	Grade Pt		9 5	52 7	755 19	
2				11 0	51 2		
⊙		0 170	751 275	11 105		751 105	Track Spike 162+00
+29	N.E. Trestle			1 2	50 1		
+50				2 1	49 2		
				4 4	46 9	749 69	

4 20 — 3 38 — 4 20 — 3 44

3				10.7	85 4		
⊙		0 33 0	785 44 0	10.960		785 11 0 Track Spike 153+00	-3 2 0
+15	E.E. Trestle			0.7	84 1		
+50				1 7	83 7		
+88 71	E.C.	+90	Grade Pt	2 7	82 7	784 89	X
4				3 0	82 4		
+50				5 0	80 4		-4 2 0
5				7 0	78 4		
+06 93	B.C. Lt	+10	Grade Pt	7 3	78 1	779 85	X
+50				9 5	76 9		
6				11 8	73 6		
⊙		0 37 5	773 81 0	12 00 5		773 43 5	Track Spike 156+00
+50				1 7	72 1		
7				3 7	70 6		
+55 +87 57	E.C.	+90	Grade Pt.	5 1	68 7	769 99	X
8				7 2	66 6		-4 2 0
+50				9 3	64 5		

808 290

148				1.9	806 4	
+50				3.6	804 2	
+63 91	B.C. Lt +60	Grade Pf-		4.2	804 1	803 48
9				5.7	802 6	
+50				8.0	800 3	
+56	E.E. Trestle			8.2	808	
150				9.9	798 4	
+50				12.0	96 3	
⊙		0°10	796°20	12.230		796 060 Track Spike 150+50
+53 81	E.C. · +50	Grade Pf		00	96 1	796 87
1 1				2.1	94 0	
+09	W.E. Trestle			2.6	93 5	
+50				4.7	91 4	
+65 05	B.C. Rt +60	Grade Pf		5.3	90 8	792 25
2				6.6	89 5	
+50				8.6	87 5	



+50				12 1	28 0		
⊙		0 640	828 920	11 865		828 280	Top of Rail Sta 142+40
+76 07	B.C. Rt +80		Grade Pt	1 7	27 2	826 88	
3				2 3	26 6		
+50				3 8	25 1		
+77	W.E. Trestle			4 7	24 2		
4				5 8	23 1		
+26 70	E.C. +30		Grade Point	7 1	21 8	821 54	
+50				8 2	20 7		
5				10 6	18 3		
⊙		0 390	818 440	10 870		818 050	Track Spike 145+00
+50				2 4	16 0		
6				4 7	13 7		
+50				6 5	12 0		
7				8 6	809 8		
+50				10 5	807 9		
⊙		0 600	808 290	10 750		807 690	Track Spike 147+50

3 20

3 56

4 20

840.145

137		2.7	37.4		
+50		4.0	36.1		
8		5.5	34.6		
+10.91		5.8	34.3		
+50		6.2	33.2		−2.68
9		8.3	31.8		
+50		9.4	30.7		
+77.9	P.F. #9	9.5	30.6		
+86.02	B.C. Rt to +90 Grade Pt.	9.6	30.5	830.44	x
140+57.15	P.S. Switchback #1	9.8	830.3		
B.M.		6.690		833.455	Nail In Rwd Stump 8' Lt Sta 140+14.0
141+36.40	P.F. #9 (Same)	9.5	830.6		+0.76
+50		9.5	830.6		
2	+00 Grade Pt.	10.7	29.4	829.44	x

2		7.5	51 6		
+50		8 8	50 3		
2+78 24	E.C. ~~W.E.~~ +80 Grade Pt	9 3	49 8	850 22	X
0	1 230 850 255	9 560		849.525 Track Spike Sta 132+78	
+81	W.E. Trestle	1 0	49 8		X-3 20
3+11 62	B.C. Lt +10 Grade Pt	1 6	49 2	849 26	X
+50		2 3	48 5		
4		3 5	47 3		2 60
+08	E.E. Trestle	3 7	47 1		
+50		4 9	45 9		
+65 62	E.C. +70 Grade Pt	5 4	45 4	845 10	X
5		6 3	44 6		
+50		7 9	42 9		X-3 20
6		9 8	41 0		
+13 50	B.C. Lt +10 Grade Pt	10 4	40 4	840 62	X
0	0 040 840 145	10 650		840 105 Track Spike Sta 136+13	2 68
+50		1 1	39 0		

865 855

126+57	W.E. Trestle		2.6	63 3		
7			3.6	62 3		
+50			4.8	61 2		
8			6.0	59 9		
+50			7.1	58 8		
+77 72	E.C. +80 Grade Pf-		7.6	58 3	858 03	
9			8.0	57 9		
+39 61	B.C. Rt +40 Grade Pf-		9.2	56 7	856 11	
+50			9.4	56 5		
+84	E.E. Trestle-		9.9	56 0		
130			10.0	55 9		
0		3.520 859 085	10 290		855 565	Track Spike Sta 130+00
+50			4.2	54 9		
1			5.5	53 6		
+50			6.4	52 7		
			7.5	51 6		

2 30

X-320-X

1 232

1				3.8	74.5		
+50				4.8	73.5		
2				5.7	72.6		
+50				7.0	71.3		
⊙		1.780	872.925	7.125		871.145 Track Spike 122+50	
3				2.9	70.0	1	
+50				3.9	69.0		
4				4.5	68.4		
+16.12	E.C. +20	Grade Ft-		4.8	68.1	868.25	X
+50				5.3	67.6		
5				6.1	66.8		
+35.84	B.C. 4 +40	Grade Ft		6.6	66.3	865.85	X
+50				7.0	65.9		
6				7.9	65.0		
⊙		1.145	865.855	8.215		864.710 Track Spike 126+00	
+50				2.5	63.4		

-1.62.5
-2.00
-2.30

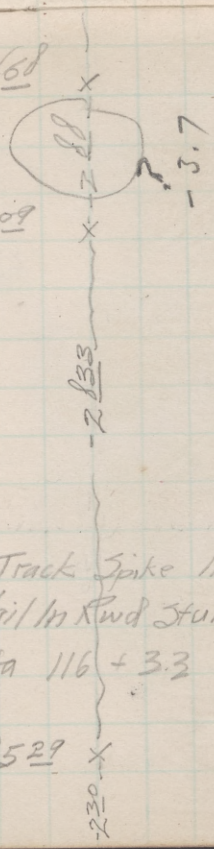
885635

116+50			1.6	84.0	
7			2.6	83.0	
+50			3.8	81.8	
+63	E.E. Trestle		4.1	81.5	
8			4.6	81.0	
+50			5.2	80.4	
+75	W.E. Trestle		5.7	79.9	
9			6.3	79.3	
+21	E.E. Trestle		7.3	78.3	
+50			7.7	77.9	
+58.51	E.C. +60 Grade Pf		7.9	77.7	877.47
120			8.8	76.8	
0		1745 878.270	9.110		876.525 Track Spike 120+00
+23.54	B.C. Rt +20 Grade Pf		2.1	76.2	875.55
+50			2.8	75.5	

2.30

3.20

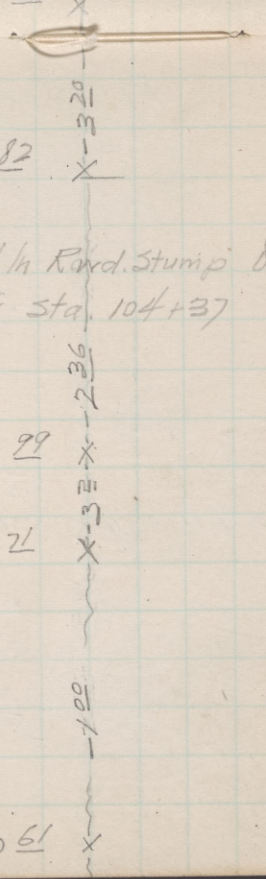
13				1.4	95 9		
+11 54	B.C. Lt	+10	Grade Pt	1.9	95 4	89+68	
+43	W.E. Trestle			3.2	94 1		
+50				3.5	93 8		
+76 44	E.C.	+80	Grade Pt	4.5	92 8	89+09	
+85				4.8	92 5		
4				5.2	92 1		
+50				6.6	90 7		
5				8.0	89 3		
+50				9.6	87 7		
6				11.5	85 8		
⊙		4.200	889 675	11.805		885 475	Track Spike 116+00
				1.700		887 975	Nail in Rwd Stump 8' Rt
							Sta 116 + 3.3
⊙		0.160	885 635			885 475	
+21 54	B.C. Lt	+20	Grade Pt	0.4	85 2	885 29	
+35	W.E. Trestle			1.2	84 4		



		915 925				
108			6.1	909 8		
+04 73	B.C. Lt +00	Grade Pt	6.2	909 7	909 65	
+37	W. E. Trestle		7.2	908 7		
+50			7.6	908 3		
9			9.1	906 8		
⊙		0.430 906 925	9.430		906 495	Track Spike 109+00
+50 06	E.C. +50	Grade Pt.	1.4	905 5	906 20	
+85	E. E. Trestle		2.3	904 6		
110			2.7	904 2		
+50			4.0	902 9		
111			5.3	901 6		
+50			6.6	900 3		
12			8.0	898 9		
+50			9.5	97 4		
⊙		0.070 897 280	9 715		897 210	Track Spike 112+50
13			1.4	95 9		

3 20 — 2 30 — 3 20

+86 36	E.C.	+90	Grade Pt	2.5	21.5	
3				3.0	21.0	
4				6.4	18.6	
+03 84	B.C. Lt	+00	Grade Pt	6.5	18.5	916 82
+50				7.8	16.2	
B.M.				3.885		920 105 Nail in Rwd. Stump 8' Rt of Sta. 104+37
+75	W.E. Trestle			8.3	15.7	
5				9.0	15.0	
+19 55	E.C.	+20	Grade Pt	9.7	14.3	913 29
+47	E.E. Trestle			10.5	13.5	
+59 98	B.C. Rt	+60	Grade Pt	10.9	13.1	912 21
Q			3.095 915 925	11.160		912 830
6				3.5	12.4	
+50				4.0	11.9	
7				4.2	11.7	
+50				4.7	16.2	
+73 68	E.C.	+70	Grade Pt	5.3	10.6	910 61



			944^{240}				
$96+18^{56}$	E.C.	+20	Grade Pt	5.9	38.3		939^{09}
$+92^{46}$	B.C. Rt	+90	Grade Pt.	7.8	36.4		936^{85}
7				8.0	36.2		
+50				9.2	35.0		
8				10.5	33.7		
⊙		0.315	933^{795}	10.760		933^{480}	Track Spike Sta 98
+50				1.3	32.5		
9				2.9	30.9		
$+46^{75}$	C.C.	+50	Grade Pt	4.2	29.6		929^{73}
100				5.1	28.7		
$+46^{75}$	E.C.	+50	Grade Pt	6.1	27.7		927^{25}
1				7.5	26.3		
2 $+00^{98}$	B.C. Rt	+00	Grade Pt	10.0	23.8		922^{45}
⊙		0.455	923^{990}	10.260		923^{535}	Track Spike Sta 102+01
+50				1.3	22.7		
$+86^{36}$	E.C.	+90	Grade Pt	2.5	21.5		920^{34}
3				3.0	21.0		

-3^{20}

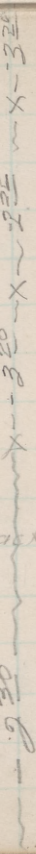
-2^{74}

-2^{48}

-3^{2}

-2^{34}

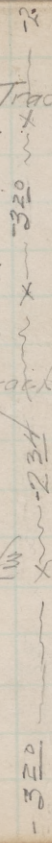
⊙		0.250 953.05	11.840		952.050	Top of Track Spike 89+56
90			1.3	51.8		
+50.62	B.C. Rt +50	Grade Pt.	2.4	50.7	953.05	
1			3.6	49.5		
+50			4.6	48.5		
2			5.5	47.6		
+31.08	E.C. +30	Grade Pt.	6.1	47.0	948.87	
+75	E.E. Trestle		7.9	45.2		
3			8.8	44.3		
+19.31	B.C. Lt +20	Grade Pt.	9.3	43.8	945.99	
+50			10.0	43.1		
⊙		1.440 944.240	10.305		942.800	Top of Track Spike 93+50
4			2.2	42.0		
+50			3.5	40.7		
5			4.4	39.8		
+07	E.E. Trestle		4.5	39.7		
+50			4.5	39.7		
6			5.3	38.9		



975 44.5

83+48 37	B.C. Rt		3.6	71.8	974 43	
84 +50	Grade Point		5.5	69.9		
+50			7.2	68.2		
5		+10	8.9	66.5	970 08	
+06 38	E.C.		9.1	66.3		
+18	E.E. Trestle		9.4	66.0		
6			11.2	64.2		
0		0.830 964 740	11.535		963 910	Top of Track Spike Sta 86
7			3.0	61.7		
+69 74	B.C. Lt	+70 Grade Pt.	4.8	59.9	961 44	
8			5.6	59.1		
+50			7.4	57.3		
9			9.5	55.2		
+50			11.4	53.3		
+56 14	E.C.	+60 Grade Pt.	11.6	53.1	955 93	
0		0.855 953 105	11.890		952 850	Top of Track Spike 89+56

6				11.6	92.3		
0		0.265	994 270	11.860		994 005	Top of Track Spike Sta 6
+40	Grade Pt.			1.8	92.5	995 43	
+50							
77				3.8	90.5		
78				7.3	87.0		
79 +00	Grade Pt.			10.4	83.9	987 11	
+03 11	B.C.			10.4	83.9		
0		1.940	985 570	10.640		983 630	Top of Track Spike Sta 79
+50				2.8	82.8		
80				3.7	81.9		
+50				4.3	81.3		
1 +00	Grade Pt.			5.3	80.3	982 43	
+07 87	E.C.			5.6	80.0		
2				8.7	76.9		
0		0.190	975 445	10.315		975 255	
2				2.0	73.4		
+12	N.E. Tree			2.3	73.1		



5-27-15
W.T.R. { W. J. Andrews, D. J. Fee }

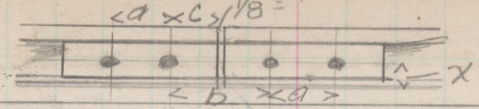
— 10-MILE EXTENSION —
Top of Rail Levels —
Between Switchback #1 & End of Track —

71+56 43 P.S. Switchback #1

Sta.			B.S.	H.I.	F.S.	Elev.	Notes
B.M.						1000.00	Ass. Elev. - Track Spike In 12" Oak Stump 8' Rt - 71+66
			5.865	1005.865			
71+56 43	P.S.				3.61	1002.25	
72					3.4	1002.5	
+50					3.0	1002.9	
3	+00	Grade Pt.					1002.50 — 3%
	+40	Grade Pt.			3.4	1002.5	1001.30
+50					4.8	1001.1	
4					6.3	999.6	
+50					7.8	998.1	
5	+30	Grade Pt.			9.0	996.9	998.42 — 3.1%
+50					10.1	95.8	

✓	50	Moss Bay	5"	3⅜"	1 17/32"	4"	3⅛	1"

Drilling, Dimensions and Brands of Rails



3/29/15

H.F.G.

	Weight	Brand	a	b	c	X	H	B	Holes	Remarks
·	54		5"		3 3/8"	1 9/16	3 15/16"	4"	1 1/8	Brand shows plainly 3416. Toughened Steel.
·	50	Scranton	5"		3 7/16"	1 5/8"	3 3/4"	4"	1"	
·	50	B.I.Co.	4 7/8"		3 3/8"	1 5/8"	3 3/4"	4"	7/8"	
✓	56	Barrow Steel	5"		3 3/4"	1 3/4" (1 15/16)			1"	9 MO 1886-67
✓	60	Oghree	5"		2 3/8"	1 7/8"			1"	
✓	60	Carnegie	4 3/4"		2 1/4"	2"			7/8"	1
✓	60	C.F. & I Co	6		2 7/8"	1 29/32			1"	Sec. 603
✓	60	Maryland 2445			3 7/8"	1 13/16			1 7/8" ?	
✓	62 1/2	Rombach	5		2 1/2"	2"			1"	I.V 1903.
✓	65	D.K.	5 1/2		2 5/8"	1 15/16			1"	
✓	65	Maryland	5 1/2		2 1/2"	1 15/16			1"	236-65
✓	56	Lack & S Co	Sc.				4"	4"		
✓	50	A & R.I. Co	4 1/2"		3"	1 5/8"	3 3/4"	4"	7/8"	Tool Steel 1880 C.R.